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THE PATIENT IN JEOPARDY:

How the Low Back Pain Patient Becomes Disabled

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More than half a century has passed since the concept of disc rupture was introduced as the source for acute episodic low back pain.[9] Since then, a tremendous proliferation of spine-related medical literature has strived to further our understanding of the features of this clinical dilemma. More recently, the technologic explosion that has driven medical advancement has enabled us to investigate patients with improved diagnostic sensitivity and treat them with state-of-the-art procedures that not too long ago could never have been envisaged. Yet, despite this burgeoning understanding and ability, disability associated with low back pain is continuing to rise.

Much of the literature devoted to low back disability is quick to point out that, regardless of the source of this affliction, few, if any, of the plethora of available treatment options are effective.[12] Subsequently, government-sponsored task forces have been asked to review the published literature and establish clinical guidelines, only to discover that most published literature is of poor quality.[12,13] Among the conclusions arising from these publications is that the education of health care practitioners is often deficient in regard to musculoskeletal conditions and, in particular, spinal conditions.

So prevalent is the low backache that some practitioners propound an almost nihilistic approach to regional low back pain. These precepts imply that low back pain (or some other nonspecific descriptor) is nothing more than a variant of the norm. The natural history is felt to be self-limiting in most persons and is complicated by disability only when failures in the person's

The Physician as Healer: Stage Two Jeopardy

The image of the healer embodies all that is virtuous about the practice of medicine. Saving lives is what the television doctor's role is all about. When presented with a specific diagnosis, the healing physician has a vast armamentarium of therapeutic modalities from which to choose, each with its own indications, contraindications, adverse effects, and complications. Clinically tested protocols govern that these treatments be prescribed in a specified frequency and carried out over a defined duration, after which a predictable effect is anticipated.

The treatment plan is the natural derivative of a well-formulated clinical diagnosis. Its execution is fundamental to the physician's daily practice and rigorously emphasized throughout training. Henceforth, the graduating physician emerges with a solid background in prescribing medications, therapies, and performing procedures directed at the preservation and promotion of healthfulness.

However, when faced with a patient with nonspecific regional low back pain, the focus of treatment is less clear. Nowhere else in medicine is it acceptable to commence treatment (and often continue it endlessly) without a clear working diagnosis. Clinically proven protocols give way to empiricism leading to the misapplication of nonspecific remedies for nonspecific conditions that eventually lead to nonspecific results.

A frequently misapplied therapeutic tool is the prescription of narcotic medications, which are commonly dispensed in the treatment of low back pain syndromes. These agents are usually prescribed in a dosage that is contrary to their mechanism of action. When taken on an as-needed dosing schedule, narcotics are not only ineffective at relieving pain, but they are more likely to reinforce the pain response. The utilization of a short half-life narcotic, such as codeine compound drugs, with repeat prescription renewals leads to the rapid development of tachaphylaxis and withdrawal-mediated rebound pain.

Many patients with chronic low back pain will recall an episode when their pain became so unbearable that they required emergency transport to a hospital emergency room where parenteral narcotics were administered. Unaware of the caregiver's inappropriate use of these painkillers, patients strengthen their conviction that they require these medications and their belief in a structural pathology as the source of their pain.

Pharmacologic jeopardy is not limited to narcotic analgesics. Hypnotic sedatives, muscle relaxants, and antiinflammatory medications are but a few examples of medications frequently prescribed based on false assumptions on the origin of the pain complaint. Inappropriate use can result in pain intolerance, over-sedation or, occasionally, iatrogenic renal or gastrointestinal complications.

When inactivity and medications do not work, many therapeutic algorithms dictate initiating a referral to a local allied health care practitioner. Unlike the pharmacy prescription, the therapy prescription is much less familiar to the primary care physician. As a result, the choice of drug, strength of dosage, frequency of administration, and duration is replaced by a prescription of "assess and treat." It would be considered unacceptable to submit a drug prescription to pharmacists that read: "Hypertension. Assess and treat." Yet this has now become the North American standard of care for therapy referrals, prompting many treatment clinics to include a check box that invites the "assess and treat" prescription on their referral forms.

By so surrendering the opportunity to direct patient care, the physician exposes the patient to a multitude of treatment options, including electrical, thermal, and manual modalities. When the patient-in-jeopardy is unable to tolerate functional therapeutic activities, passive modalities are applied exclusively, often well beyond the scope of their intended therapeutic effectiveness. Treatment based solely on pain relief, without clear functional endpoints, often leads to patient dependence. Subsequently, as treatment sessions are decreased, there is often a resurgence of symptoms akin to opiate withdrawal states. The patient-in-jeopardy interprets this relapse as evidence that they *need more* pain-relieving therapy. Notwithstanding this common misconception, deficiency states for therapeutic modalities have repeatedly defied detection.

TABLE I. Physician Actions that Allow Low Back Pain to Progress to a Disabling Condition

1. Tell the patient that if it hurts, don't do it.
2. Tell the patient that if it still hurts, there must be something terribly wrong that merits ongoing investigation.
3. If you can't find anything wrong, medicalize the condition using terminology that promotes somatization.
4. If it still doesn't go away, consider surgery.

When the pain persists despite therapy, both the physician and patient conclude that something must be terribly wrong (Table 1). As the diagnostic work-up continues to attempt to unmask the condition that defies detection, some degree of pathoanatomy is eventually discovered. With no clear context for interpretation, the patient can now focus on the newly found aberrancy. A surgical referral at this stage only serves to foster a new sense of false hope for the patient-in-jeopardy. Once surgical intervention is deemed to be required, the hope is often replaced by treatment failure. Lest this experience dissuade the surgeon from repeating this approach in the next patient-in-jeopardy, the failure is written off as a "failed back" rather than a failed approach to the problem.

The Physician as Patient Advocate: Stage Three Jeopardy

After having survived the diagnosis and therapy, the patient who fails to get well is then subjected to a series of bureaucratic exercises that require the patient (now a claimant) to prove that he is too ill to return to the workplace. This usually begins with some formal statement of claim, filed by the injured worker, that clearly outlines the manner in which he or she was "accidentally injured in the course of employment" and how, as a result of this workplace incident, he or she is rendered unfit for duties.

Among the necessary proofs that the claimant must provide is an attestation of work incapacity that is completed by the treating physician. Most commonly, the physician completes a standardized claimant progress report to corroborate the historical data and support it with relevant clinical findings. In cases in which the duration of the worker's workplace absence extends beyond its natural history (as per the particular insurance company's actuarial experience), narrative reports are often requested for the physician to clarify, in greater detail, why the worker's illness has persisted.

By this point, even the seasoned physician senses anxiety when confronted with a patient whose clinical condition challenges his knowledge of musculoskeletal conditions. Yet, most will venture forth unworried and prepare the medicolegal report, for which few physicians receive any formal training at all. Many clinicians consider this exercise nothing more than a forum to advocate for their patients by expressing their professional opinion on the degree of suffering with a smattering of

physical signs and diagnostic test results. Subjective modifiers such as *severe* and *extreme* permeate the narrative yet bring no more clarity to the worker's file than the claimant's own self-report of pain. Modifiers such as *torn* and *ruptured* connote the alleged acute injury depicted by the patient.

Thus, the physician declares himself as the injured worker's trusted ally. Even though a more objective second look points out the inappropriate treatment choices based on improper diagnosis, the physician continues the course of therapeutic decisions. Any reversal of opinion by the physician could not be defended without an admission of iatrogenicity. Not only would such an admission require an explanation of why the flawed approach was not discovered sooner, but it would necessitate convincing the patient that he is not as disabled as he maintains and that he is therefore unworthy of the compensation benefits he believes he has grown to deserve. This paradox is best articulated by Hadler: "Faced with escalating illness, so discordant from demonstrable disease, medicine is not likely to accept blame for subjecting the patient to months of an exercise that turned out to be flawed in design and iatrogenic in execution."[6]

The Physician as Judge and Jury: Stage Four Jeopardy

Presented with a patient-in-jeopardy, the physician is approached by both the patient and the disability adjuster for guidance on degree of disability. Can the claimant work? Full or modified duties? Full- or part-time hours? Period of complete or partial disability? To answer these questions the physician must understand the interface where impairment and disability meet.

Impairment may be defined as any loss or abnormality of psychologic, physiologic, or anatomic structure or function.[18] Disability, on the other hand, may be defined as an alteration of an individual's capacity to meet personal, social, or occupational demands or statutory or regulatory requirements, because of an impairment.[1] Yet, to be impaired is not to be disabled. This is readily evident with high-level paraplegics who have an undeniably significant degree of impairment but are completely independent in all aspects of activities of daily living and daily work. Conversely, to be disabled does not imply a measurable impairment, as is often the case in patients with chronic pain that defies diagnosis. It would seem, therefore, that in the patient-in-jeopardy, the correlation between impairment and disability approaches zero, indicating that they are separate events.

It is paradoxical that the experienced claims adjuster, who knows disability well, turns to the physician, who has no formal training in disability, as the expert to guide case management strategies. The presumed concordance between pathoanatomy and symptom severity that is so deeply rooted in the doctrines of many spine specialists makes them even more unlikely experts as disability assessors: they often fail to appreciate that the relationship of pathoanatomy to impairment is discordant.

When issues of illness and injury occur outside the setting of compensation and litigation, physicians attempt to apply guidelines for return to activity that are consistent with the patient's objective impairment. Consider the case of an accidentally fractured scaphoid that occurs outside the workplace. Faced with the risk of malunion and avascular necrosis, the physician knows that a period of immobilization (or temporary partial disability) is indicated during which certain activity limitations are required. Even if symptoms improve significantly, the patient may still be advised to avoid activities such as contact sports based on the inherent risks of interfering with bony healing.

Conversely, once solid bony union has occurred and the risk for complications has passed, a patient may be advised to return to all activities, even with some degree of residual symptoms, based on the assurance that it is safe to do so. Thus, the recommendations on the period of disability have a direct relationship to the patient's pathology or impairment.

This system of logic is long since forgotten when issues of entitlement are at stake. Faced with a patient that is languishing, yet devoid of demonstrable structural pathology, there is no objective framework from which to deduce the degree of disability. Committed already to uncovering the organic sources of the problem through tireless investigation, the physician often follows the severity of the patient's symptoms as a barometer of the severity of the pathologic process. Just as bedrest lays waste to anatomic function, arbitrary limitation of activity, including work, places the patient at risk for atrophy of spirit and sense of worth. In the absence of a direct relationship between continuing with full or modified activity and pathologic progression of the patient's condition, the application of work restrictions is purely arbitrary and based more on symptoms than signs. In a sense, therefore, the patients-in-jeopardy are as disabled as they proclaim.[6]

This lack of objectivity for the degree of disability leaves the insurance adjuster with a void from which to account for the payable benefits. This often prompts the request for an independent medical examination (IME) to assess causation, prognosis, degree of disability, permanency of impairment, and work capacity. A parallel second agenda is verification of claimant credibility. These contracted examinations absolve the physician of the patient-doctor relationship. In doing so, the IME serves to heighten the need for the claimant to behave ill as he is faced with an anonymous examiner with whom no trust has been established.

In our efforts to distinguish claimants who will work versus those who cannot work,[5] we have become skillful in devising clinical signs that foretell abnormal illness behavior. These various signs have been shown to correlate with poor clinical outcomes, especially when more than one sign is present.[8,14] However, considering the clinical contest to which we subject these persons, these behaviors may not be considered abnormal.

At the end of the exercise, the IME physician notes the patient's objective impairments and then rates them as a percentage impairment of the whole person. This appraisal of human function is based entirely on the science of consensus of a panel of experts who, as a group, assign numeric values to the various bodily functions based on what seems reasonable. While the American Medical Association's (AMA) *Guidelines to the Evaluation of Permanent Impairment*[1] was representative of one of the first impairment schedules, it is now standard for most disability insurers.

However, contrary to the intentions of the AMA, these impairment schedules are often used fallaciously to calculate monetary disbursements, including disability benefit awards. This system of logic presupposes that for a given ratable impairment there exists a predictable level of disability. As illustrated earlier by the often divergent relationships between impairment and disability, this extrapolation is no more valid than the physician's estimation of the degree of a patient's disability based on severity of symptoms alone.

While there is no truly just process for arriving at a fair monetary value to account for the loss of human function, the arbitrary nature in which these awards are determined often results in appeals by the claimant. Given that there is no valid frame of reference to use as a measuring stick, neither side in the appeals process has a defensible position upon which to advance their claim. This adversarial exchange

often transforms the insurer, in the eyes of the patient-in-jeopardy, into a focal point against which he can direct the combined frustrations arising out of his predicament.

PREVENTING THE JEOPARDY

Nowhere else in medicine is there as large a gap between what we think we know and what we can prove as there exists in the field of musculoskeletal and, in particular, spinal disorders. Many of the conventional theories on these conditions may continue to defy testability for practical or ethical reasons indefinitely. However, to conclude from this paradox that patients so afflicted do not require a specific diagnosis or a carefully directed treatment plan, for fear of confounding the natural history of the condition, is a delusion.

Fortunately, health care practitioners who regularly treat patients with aches and pains are aware of the favorable prognosis associated with most acute episodic spinal pain syndromes. Nevertheless, when faced with patients who continue to languish beyond the expected natural history of their condition, it is necessary to proceed with caution. It is in this scenario that the patient report card has its greatest value. The failing grade is the first clue that the presenting condition is atypical. While this might be a harbinger of ominous structural pathology, it is most often a declaration of psychosocial factors that confound the underlying initiating event and may be the first sign of jeopardy.

In this setting, we are obliged to look beyond the physical signs and explore the other issues that have precipitated the patient's presentation. We need to ask not only what has caused a disorder but why the patient has presented with it. It is not sufficient to note that the patient displays classic features of abnormal illness behavior and label the condition as psychosomatic, for these signs do not exclude underlying organic pathology.

The literature, however incomplete, is the ultimate clinical guideline and should prompt us to make a complete assessment before proceeding onward. The literature should serve as a reminder on how much we do not know as we consider how to educate patients about their condition.

The approach to the patient-in-jeopardy is really no different in principle than the approach to patients who carry on unabated by their afflictions. We must evaluate appropriately, consider the diagnostic possibilities, and, whenever possible, reassure patients of their favorable prognosis. Treatment choices must always consider, on balance, whether the benefits, as predicted by the prevailing knowledge, outweigh the possible risks. The ultimate goal of any treatment plan should be to optimize patient function. The converse, then, to minimize disability by preventing chronicity, is therefore penultimate, for chronicity is the seed from which jeopardy flourishes. Until we know for sure, we must remember our oath to first do no harm.

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DISABILITY

How Successful Are We In Determining Disability?

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Back pain is a common problem, as other articles in this issue have demonstrated. Death as a consequence of back pain is extremely rare but disability is not. Multiple studies have assessed the functional status of individuals who have symptomatic low back pain. These studies have indicated that during a symptomatic episode, the functional status of the sufferer is very poor.[9] Indeed, it is equivalent to someone who has severe congestive heart failure, metastatic cancer, or symptomatic acquired immune deficiency syndrome.[20] Individuals who have severe back pain have trouble bending, may not be able to put on their own shoes, have difficulty in ambulation, and may not be able to clean their own houses. What distinguishes individuals with low back pain from those afflicted with these other conditions is prognosis. Back pain essentially never shortens life. Acute back pain has a very benign prognosis, with more than 90% of the individuals returning to a functional status equivalent to their baseline status within 3 months of the onset of pain.[10] Patients who have chronic back pain have a significantly worse prognosis, but most cohort studies show that substantial numbers of chronic-back-pain patients improve over time with supportive therapy.[24,26]

Society has elected to support disabled individuals. Back pain represents a special case in that the disability is nonlethal and that there are no external stigmata of the functional impairment. No limb is severed,

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there is no obvious joint deformity as in rheumatoid arthritis. Although the number of individual programs developed by society to provide financial support for individuals temporarily or permanently disabled with back pain is very large, they can be divided into three broad categories:

1. State-based workers' compensation systems
2. Social Security Disability Insurance (SSDI)
3. Private disability insurance, including systems that insure income, mortgage payments, and time payments for appliances

Within each of these disability systems, a physician may function either to rate impairment or as a treating physician. Sometimes these roles are admixed. In all situations, the physician's and the patient's interests are best served by clarity of communication among physician, patient, employer, and insurer.

WORKERS' COMPENSATION AND BACK PAIN

American Workers' Compensation is a no-fault system designed to pay the medical expenses of workers who undergo an injury or develop an illness arising out of gainful employment. This system also provides cash payments of a portion of the worker's income during the period of complete disability. Workers who are partially disabled may obtain long-term payments of the appropriate portion of their salary. Therefore, in American Workers' Compensation, three types of disability payments are possible: temporary total, permanent total, and permanent partial disabilities.

Temporary total disability indicates that the worker is unable to perform any gainful employment for a period of time. This is the most common circumstance in which payments are made under Workers' Compensation. The worker is ill or injured, receives treatment, recovers, and returns to work at full capacity. Permanent total disability indicates that the employee is so impaired that he or she is unable to pursue any gainful employment and that this condition is expected to persist indefinitely. A substantial period of time after an injury must pass before a worker can be assessed as permanently disabled. The greatest costs within state Workers' Compensation systems come from permanent partial disability.[22] In permanent partial disability, the employee never recovers to baseline level of functioning, even after tests of time and treatment. Thus, although the employee can return to work, it may not be at the same employer or at the same job description. Great controversy exists as to the determination of the level of disability within partial disability.

The following comments regarding Workers' Compensation should be considered generic: substantial variability exists among states regarding the exact apportionment of disability and the administrative process utilized. Each state has its own Workers' Compensation statutes, unlike the nationwide Social Security disability system.

An overriding paradigm of Workers' Compensation is the whole-man (more properly the whole person) concept. That is, if one is rendered completely unable to perform any gainful activity for pay, one is rendered 100% disabled. Using the whole-man concept, partial disability awards can be apportioned.[1]

The whole man concept has intuitive appeal, as well as some empiric validation, when applied to extremity injuries. If a digit or extremity is severed or rendered useless, the functional capacity of that body part is lost. The amount of functional capacity lost will be proportional to the number of digits lost or the weakness in the extremity. Industrial injuries of the early twentieth century were often associated with amputation or catastrophic injury. This probably led to the popularity of the whole-man concept of disability.[11] How can the whole-man paradigm pertain to back problems? The type of impairment generated by back problems is qualitatively different from extremity injury. The impairment is global; persistent pain is a prominent characteristic; and quantification of the impairment is quite difficult. Despite these difficulties, the American Medical Association (AMA) impairment rating guide does demonstrate detailed impairment rating for the back. Physicians who are performing impairment ratings for Workers' Compensation boards need to be very familiar with this type of impairment rating. The focus of the AMA impairment rating guide is very much on the measurable. Range of motion is addressed in detail and in multiple axes. Range of motion of the back is a difficult clinical measurement. Studies have shown that reliable range of motion measurements can occur only with practice and by use of an inclinometer or goniometer.[2,11,17,18]

Range of motion of the spine is here considered a measure of impairment or diminution in function. The decrease in function is considered a measure of disability. The emphasis on goniometry and precision in disability assessment serves to improve the reliability of the assessment. Reliability is the measurement characteristic that is used to assess the reproducibility of the measure. If one is measuring blood pressure, the sphygmomanometry is reliable if measures at different times and by different physicians and nurses are approximately the same. Reliability is not the same as validity. A highly reliable system of blood pressure measurement with readings of 140/88, 138/90, 144/92 may be completely invalid if the instrument is calibrated 20 points too low. Similarly, range of motion of the spine, which can be measured with some precision with appropriate instrumentation, may not bear a close relation with the underlying construct of work disability. Indeed, a recent study of spine motion in which an automated system was used, found no relation with return to work.[19] Some jobs can be adequately performed with significant diminution in spine motion, they may be sedentary or may not involve bending. Workers may be able to achieve partial adaptation to the job by using hip motion, or the job may be modified to fit the worker.

This type of impairment rating for back trouble is clearly a square peg in a round hole: a system developed for extremity injury does not

apply well to back pain. Unfortunately, there is no consensus as to what system would be an improvement over the current state of affairs. The state of California has been developing a substitute impairment rating system over many years. This system appears to have improved reliability.[7,8] There is less emphasis on range of motion and more emphasis on the patient's report of functional capacity. The dilemma for the rating physician is that the most valuable source of information regarding function (the patient or claimant) is often considered a nonreliable informant because of the adversarial nature of the Workers' Compensation system.

In the United States, Workers' Compensation is a no-fault system. The early compensation statutes stipulated that workers be indemnified even if they were negligent in their employment duties.[12,14] But indemnification is contingent on the work relatedness of the injury. Causality is little in dispute in the case of obvious, acute trauma occurring at work. Most jurisdictions cover backache when a discrete nontraumatic episode (bending and lifting) leads to the onset of pain at work. More complex is the relation between activities at work, such as bending and lifting, and pain that begins at home that evening or the next day. Is this delayed type of pain compensable under Workers' Compensation? There is no national consensus on this issue; the outcome may depend on how unusual the activities were on the job. State precedents, compensation board composition, and chance also influence claim outcome.

These many factors add to the substantial clinical uncertainty as to the origin and prognosis of low back pain in industry. Judicial variability in award type and amount is scarcely surprising in this setting. Individuals who have claims of permanent low-back-pain impairment may find themselves being examined by multiple specialty physicians, each giving differing percentage estimates of permanent partial disability. Experts employed by the plaintiff will give higher estimates, and experts attained by the employer or insurance company will give much lower estimates. Administrative law judges are often reduced to splitting the difference. This system, while manifestly imperfect, is the one with which the treating physician must work.[13] Physicians and patients are best served by going into compensation situations well aware of the intricacies and the incentives inherent in our current system.

Although some physicians may choose to perform impairment-rating examinations, most physicians treat individuals with work-related illness and injury.[4] The overall principles of treatment are identical to those of nonwork-related injury or illness. Some issues, however, are specific to work capacity. Documentation is more important. Written notes documenting the patient's statements of onset of symptoms, mechanism of injury, and type of symptom are extremely important at the initial visit. Reconstruction of these issues weeks or months later is essentially impossible. The same is true for adequate documentation of a standard physical examination at the initial visit. Use of radiographs and imaging is typically greater when compensation is involved than in noncompensation settings. Although this may not make much medical sense, it is an unfortunate fact of life that in medical illness situation, Workers' Compensation

insurance companies request more documentary evidence than do insurance companies.

Spine radiographs and other imaging studies such as magnetic resonance imaging (MRI) may be performed somewhat reflexively "because it's a compensation case," but physicians should recognize that although the imaging technology carries minimal direct risk, the indirect effects of diagnostic labeling may be substantial. Spine radiographs often demonstrate disc space narrowing and osteophyte formation.[21] MRI scans in asymptomatic individuals carry a 25% chance of demonstrating significant disc pathology.[15] If the imaging procedure is not carried out for clinical indications (trauma, neurologic signs, and so on), then the anatomic findings may be very difficult to correlate with the patient's clinical condition. The identification of such anatomic changes may reinforce illness behavior on the part of the patient, thus exacerbating the disability situation. Obtaining tests in the hope that they will be negative may therefore represent a form of diagnostic Russian roulette. Certainly no disc finding on an imaging study can predict work status except in the most general way: patients who have large disc protrusions plus neurologic signs are less likely to improve than patients who lack neurologic signs. Yet the majority of patients who have disc protrusions recover completely from their episodes. So although these studies may be predictive for groups of patients, demonstrating epidemiologic value, their predictive value for an individual patient is low.

The treating physician should, from the time of the initial visit, work with the patient to get him or her back to work as soon as possible. Employers are increasingly amenable to providing modified work settings, such as 4 hours per day or avoidance of lifting for a period of time while back pain eases. The treating physician should remember that phrases like "light work" may have little meaning for a shift supervisor. Employers in small companies may have little flexibility and may not be able to modify work content during a period of impairment from back pain.

SOCIAL SECURITY DISABILITY INSURANCE

The Social Security program provides permanent disability awards for individuals who are unable to sustain any substantial gainful employment for a period of greater than 6 months.[5] In contrast to Workers' Compensation, the illness under Social Security need not arise out of employment.[16] Individuals receiving benefits under Social Security receive modest monthly cash payments and are covered under the Medicare or Medicaid health insurance system, depending on their employment history. Application for Social Security benefits is a prolonged and tedious process often taking longer than 6 months. Individuals apply at a local Social Security office and their eligibility (US citizenship, work history) is assessed. Medical evidence is gathered from all recent treating physicians. The patient's documented medical condition and impairments are then compared with a rating book published by the Social Security system. De-

cisions are made by a team of a physician and a rehabilitation specialist employed by the Social Security system. This determination is made solely on the basis of documentation in medical records; the administrators determining disability have never met the claimant. The Social Security criteria for low-back-pain disability are given in Table 1. There is no partial disability under Social Security; one is either permanently disabled from all gainful employment or not. Some issues, such as age, educational level, and comorbid conditions can be taken into account in the making of the determination of disability. That is, individuals with moderate angina and moderate chronic obstructive airways disease might be considered disabled even if they would not be considered disabled if they had only one of these two conditions. The criteria for disability from back pain are quite strict under Social Security. Documented neurologic impairment is essential. In spite of the strict criteria, people still receive disability payments under Social Security for low back pain. Individuals who have musculoskeletal conditions and who leave the workforce have a high rate of comorbid conditions and a poor fit between the demands of the job and the perceived capacity of the individual.[27] In most circumstances the physician is not asked by the Social Security Administration to make such multivariable assessments of disability. The physician is usually asked only to provide information regarding impairment, not disability, as part of the medical evaluation.

If an applicant is turned down at the initial determination, multiple levels of appeal are possible (Fig. 1). The first appeal is to a second physician–administrator panel at Social Security, and most individuals are denied again. This is not surprising, because the second panel works under the same administrative guidelines as the first panel. The next level of appeal is to an administrative law judge. For the first time, the claimant can meet the determining individual face to face. The administrative law

Table 1. DISORDERS OF THE SPINE QUALIFYING FOR SOCIAL SECURITY DISABILITY BENEFITS

Arthritis manifested by ankylosis or fixation of the cervical or the dorsolumbar spine at 30° or more of flexion measured from the neutral position, with x-ray evidence of 1. calcification of the anterior and the lateral ligaments 2. bilateral ankylosis of the sacroiliac joints with abnormal apophyseal articulations
General osteoporosis manifested by pain, limitation of back motion, and paravertebral muscle spasm, with x-ray evidence of 1. compression fracture of a vertebral body with loss of at least 50% of the estimated height of the vertebral body prior to the compression fracture with no intervening direct traumatic episode 2. multiple fractures of vertebrae with no intervening direct traumatic episode
Other vertebrogenic disorders (e.g., herniated nucleus pulposus, spinal stenosis) with both of the following persisting for at least 3 months despite prescribed therapy and being expected to last 12 months 1. pain, muscle spasm, and significant limitation of motion in the spine 2. appropriate radicular distribution of significant motor loss with muscle weakness and sensory and reflex loss

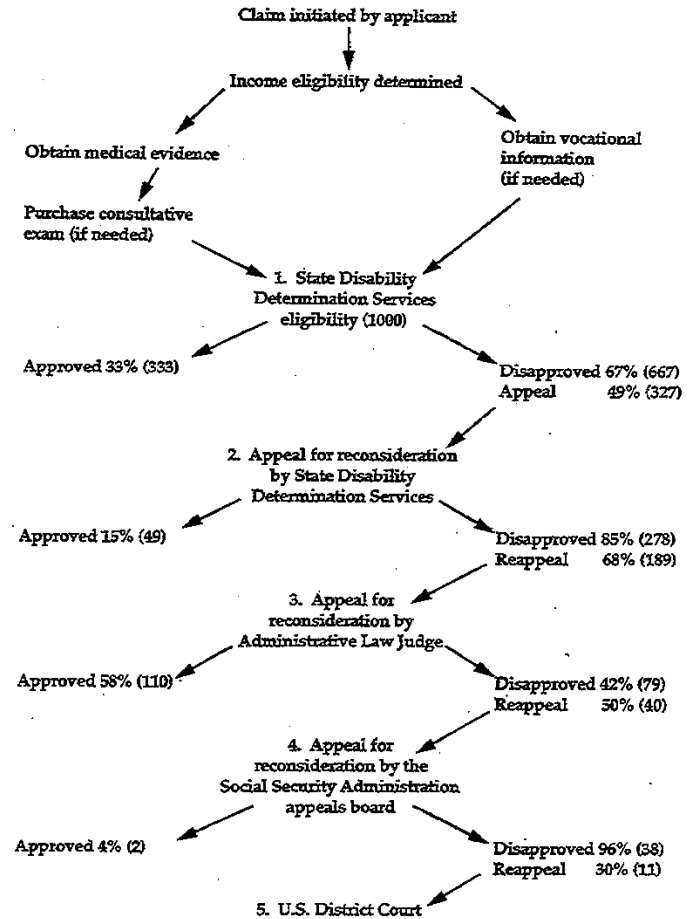

Figure 1. The path through disability evaluation an re-evaluation is complex. The percentages refer to the proportion of individuals approved or disapproved at each stage. The numbers in parentheses indicate the number of applicants at each stage (approved, disapproved, still appealing), assuming an initial cohort of 1000 applicants. The percentages are approximate and vary somewhat from year to year and state to state. (From Carey TS, Hadler NM: The role of the primary physician in disability determination for social security insurance and worker's compensation. Ann Intern Med 104: 706–710, 1986; with permission.)

judge has substantially more latitude than the previous agency personnel in interpreting the Social Security regulations, and over 50% of cases appealed to this level are reversed in favor of the claimant. In a majority of cases, the administrative law judge represents a final practical level of appeal. Social Security does have an appeals board, but the reversal rate there is quite low. Federal court can be used as an appeal process, either as part of individual or as class-action litigation of the disability system. All of the higher levels of appeal are substantially easier for applicants to navigate if they have the advice of legal counsel.

Practicing physicians are often requested by the Social Security Administration to provide information on patients for Social Security Disability Income (SSDI) determinations. This is usually a matter of copying notes, radiograph reports, and so forth. In the early levels of determination, the agency is interested only in history, physical findings, and results of diagnostic tests. The physician's opinion as to whether the patient is disabled is not taken into consideration.[3] However, at the level of the administrative law judge, the opinion of a treating physician as to whether a patient is disabled may carry significant weight. This opinion is more likely to be helpful if there is evidence of an ongoing relationship between patient and physician, and if there is evidence that the patient has been compliant with proffered treatment regimens. Physicians may do the most good for their patients, however, by working with them early on to assist their return to work. The state of the regulations is such that only patients who have significant neurologic deficits are likely to receive Social Security disability. Vocational rehabilitation early on may be a much more productive option for the individual who is unable to work at their current job because of back impairment.

PRIVATE DISABILITY INSURANCE

The two systems outlined above are administered by large bureaucracies with medical directors and medical advisory boards. Their disability rating systems are somewhat open to the scrutiny of the public and occasionally to academic research. Private insurance systems may have a single physician medical director and are generally protected from public scrutiny. The treating physician may be confronted by a one- or two-page form asking whether the patient is totally and permanently disabled with a check box to indicate yes or no. The insurance policy may provide the individual cash payments similar to Social Security disability or Workers' Compensation. Alternatively, the payment may be a mortgage payment or even may be payment on a loan for a household appliance. These payments are picked up by insurance only as long as the patient remains disabled. The incentives that may tend to prolong disability in such a setting are obvious. The insurance forms often do not ask for detailed history or physical examination. There is often no reimbursement to the physician for filling out the forms, and the anxiety level of the patient may be high. When confronted by such a policy, the physician may be best advised to inquire as to the duration of payments and place some responsibility back on the patient as to what the patient expects the recovery rate to be. A written cover letter on the form going back to the insuror giving a clinical rationale for the presence (or absence) of work disability can often be helpful to the insurance company and aid in documenting to the patient the expected prognosis. Copies of such correspondence should be shared with the patient. Such early and complete communication can diminish the monthly reappearance of a form and the persistence of disability.

DISABILITY AS A CONSTRUCT

Disability assessment in the United States (and most societies) is a construct that straddles medicine and society. This interface between the familiar (medicine) and the unfamiliar (the shifting sands of social programs) is difficult and variable. Much of current physician frustration with disability assessment goes back to fundamental issues of validity. Physicians are often most comfortable with the validity of a diagnosis when a test is measured against a criterion: some form of gold standard. In such a situation, the gold standard may be a tissue diagnosis or a definitive test such as an exploratory laparatomy. The receipt of disability benefits is not a criterion but rather a social construct, with elements of medical diagnosis and social policy such as job availability and the duty of society to those who are ill. Voluntary return to employment, as opposed to certification as disabled by society, can be assessed, although imperfectly. Cats-Baril and Frymoyer[6] have developed instruments that have demonstrated some predictive power for return to work. However, such instruments are *not* appropriate for disability determination, they become tautological when used in that way. Prediction of failure to return to work would be used as a predictor of certification of inability to work: patient self-assessment would seem to serve as well.

The disability construct varies among societies, between programs (as we have seen with workers' compensation and Social Security Disability) within a single society, and it might change over time. Indeed, recent history has demonstrated pendulumlike swings in disability policy, with the gates either being opened or shut depending on the views of society toward the sick. These swings in disability policy have been traced back as far as the middle ages.[23] Western societies have for years viewed the nonworking poor as being divided into categories: those unable to work through catastrophic illness not brought on through their own action (the "worthy poor") and those who at some level choose not to work (unworthy poor). In certain circumstances the worthy poor will receive social aid, but those who are able to work will receive very limited support with powerful incentives to return to gainful employment. These distinctions may not be evident to a treating physician, and some physicians may disagree with the construct.

Back pain, which has few, if any, external stigmata of the underlying illness and disease thus serves to crystallize many of the underlying difficulties with the construct of disability determination. Back-pain patients

are often suspected of malingering, and some of the diagnostic tests such as the signs delineated by Waddell et al,[25] developed to assess symptom magnification in low back pain are sometimes misinterpreted as diagnostic tests for malingering. The signs include superficial tenderness over the back and pain on axial loading. Patients who have positive Waddell signs often have significant spine pathology; a major use of such signs is to identify patients who will do poorly with surgery.

ROLE OF THE TREATING PHYSICIAN

Disability insurance premiums are paid by workers and employers into funds; when they become disabled, collecting those premiums is a right. Counterbalancing these issues is the unequivocal benefit of early return to a desirable job in the rehabilitation of the back-pain patient. Prolonging work incapacity can lead to angry patients, angry employers, and increased social costs. Early communication with the employer facilitates return to work, particularly when this involves job modification or part-time work. This early communication, which should occur at or shortly after the first visit if the patient does not expect to return to work within 1 to 3 days, sends a clear message to the employer that both physician and patient are trying to work together to resume employment.

Workers must be reassured that the physician is their advocate. Thus, it is important to be clear with the worker whether one is functioning as a treating physician in a Workers' Compensation case or doing impairment rating. Comingling these two functions can later lead to significant misunderstanding and anger. When requests from an insurer or employer are made for opinions as to return to work, these opinions should always be shared with the worker. When the worker's estimate and the physician's estimate are not synchronous, anger and increased work incapacity may be the result.

ROLE OF THE CONSULTATIVE PHYSICIAN

Once again, early and clear communication is absolutely key to the consultative physician's role. The type of disability determination program may require significant quantification of range of motion or muscle strength. When these are requested, they can certainly be performed, but it is important to recognize that little evidence exists that these are substantial predictors of work incapacity. In almost no situation is the physician the judge of disability. Almost always the physician is a consultant, an information giver. Keeping these principles in mind can avoid frustration to the physician, the patient, and the insurer.

Clinicians currently do not generally serve as gatekeepers in the current US disability systems. Physicians serve as providers of information, counselors of patients, and givers of often tentative prognoses. Disability determination is a social and political construct: physicians in their roles

as citizens should have special information in the determination of disability; they are experts in prognosis. Physicians currently do not set social disability policy. That is a role we should seek and accept only at our peril. The personal physician role is one in which a patient is seen individually. Crossing to a role in which the best outcomes for groups of patients (or of society as a whole) is sought, might lead to loss of credibility for physicians as counselors for each individual patient they see.

ACKNOWLEDGMENTS

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A WORLD OF HURT

Exams of Injured Workers Fuel Mutual Mistrust

By N. R. KLEINFIELD

Dr. Hershel Samuels, an orthopedic surgeon, put his hand on the worker's back. "Mild spasm bilaterally," he said softly. He pressed his fingers gingerly against the side of the man's neck. "The left cervical is tender," he said, "even to light palpation."

The worker, a driver for a plumbing company, told the doctor he had fallen, banging up his back, shoulder and ribs. He was seeking expanded workers' compensation benefits because he no longer felt he could do his job.

Dr. Samuels, an independent medical examiner in the state workers' compensation system, seemed to agree. As he moved about a scuffed Brooklyn office last April, he called out test results indicative of an injured man. His words were captured on videotape.

Yet the report Dr. Samuels later submitted to the New York State Workers' Compensation Board cleared the driver for work and told a far different story: no back spasms, no tender neck. In fact, no recent injury at all.

"If you did a truly pure report," he said later in an interview, "you'd be out on your ears and the insurers wouldn't pay for it. You have to give them what they want, or you're in Florida. That's the game, baby."

Independent medical exams are among the most disputed components of New York's troubled workers' compensation system. Under that system, workers with bona fide injuries are entitled to medical care and replacement wages, usually paid for by their employer's insurer.

The independent exams are designed to flush out workers who exaggerate injuries or get unnecessary care, and there is no question that some of that goes on. As a check on what a worker's doctor determines, insurers are allowed to order an ostensibly neutral exam by a doctor they select and pay for. They do so regularly, with more than 100,000 exams conducted each year.

But a New York Times review of case files and medical records and interviews with participants indicate that the exam reports are routinely tilted to benefit insurers by minimizing or dismissing injuries.

"You go in and sit there for a few minutes — and out comes a six-page detailed exam that he never did," said Dr. Stephen M. Levin, co-director of the occupational and environmental medicine unit at Mount Sinai Medical Center, who has been picked as the interim medical director at the compensation board. "There are some noble things you can do in medicine without treating. This ain't one of them."

New York uses independent medical examiners far more extensively than many states do, and critics say the practice adds to the mistrust in the system. The examiners' opinions can empower an insurer to slash benefits, withhold medical treatment or stall a case. Workers say that psychologically, there is something particularly damaging about being dishonestly evaluated by a medical professional.

"I was in so much pain and felt so hopeless for so long," said Carol Houlder, a substance abuse counselor who waited a year for surgery on her injured ankle to be approved. "Doctors see you're in pain and say you're not. How do they call themselves doctors?"

Many independent examiners are older, semiretired physicians who no longer treat patients, and claimants and lawyers have asserted that the memories and judgments of some of the doctors have at times been impaired by their age and frailties. The examiners do not need special training, only to have a state license and to be authorized in a specialty.

"Basically if you haven't murdered anyone and you have a medical license, you get certified," said Dr. Alan Zimmerman, 75, a Queens orthopedic surgeon who does the exams. "It's clearly a nice way to semiretire."

Some examiners see dozens of injured workers a day. Often the appointments are booked by brokers who help insurance companies find doctors. Some brokers are not registered with the state, as required, but there has been little enforcement of the rules.

Insurers, examiners and brokers, however, defend the exams as necessary and largely untarnished by bias. Dr. Brian L. Grant, chairman of Medical Consultants Network, a company based in Seattle that arranges independent exams across the country, said, "We never get pressure from an insurer."

Many workers contest independent medical examiner opinions and often prevail. Judges can, and do, dismiss the exam findings. In fact, some lawyers and judges laugh when certain examiners' names come up at hearings.

Dr. Kenneth E. Seslowe, an orthopedic surgeon who mainly does independent medical exams, is mocked at hearing offices by attorneys as Dr. Says-No, because they feel he consistently finds no disability. Asked about this, Dr. Seslowe said, "I really don't have time for this."

But even when the opinions are discounted, resolution can take months, years, even decades, and many workers, tired of the ordeal of five, six, seven exams, eventually give up.

Some examiners, of course, do furnish honest, well-reasoned opinions. And sorting out the yawning breach between what a worker's doctors and an independent medical examiner conclude is complicated by the fact that some injuries and their impact on a person's ability to work — especially soft-tissue injuries like those to the back and neck — are hard to document with indisputable tests.

Zachary S. Weiss, the chairman of the workers' compensation board, said that he found the disparities in medical opinions shocking and that use of independent examiners was "off the charts." But Mr. Weiss, who was appointed in late 2007, said he was unsure what would rectify the problems.

After nearly a dozen years without a medical director, the board has finally filled that job temporarily. It has

introduced new, more detailed forms, which many doctors find maddening. It is also working on fresh guidelines that it hopes will better calibrate an injured worker's care and work limits.

Dr. Robert E. Bonner, the medical director of the Hartford, an insurance company, said it was clear that the landscape had polarized. "Physicians regrettably have moved away from being neutral observers," he said. "They've moved toward one camp or the other."

Doctor vs. Doctor

When New York companies complain about the high cost of doing business in the state, they often cite fraudulent workers' compensation claims as a key factor.

Though experts say talk of worker fraud is frequently overstated, it is widely acknowledged that some doctors collaborate with workers or their lawyers to magnify injuries or provide treatment for years without making someone better. Law firms representing workers often have cozy relationships with doctors to whom they refer patients, and vice versa.

A few years ago, Dr. Rafeak Muhammad, a Queens ophthalmologist, was barred from taking workers' compensation patients after acknowledging that he had treated several long after it was necessary. He declared them unable to work when in fact they could.

David Donaldson, senior vice president at the domestic claims subsidiary of A.I.G., one of the state's largest workers' compensation insurers, said, "Our position on I.M.E.'s is we're looking for someone who is going to give us a coldly objective view of the injury."

Critics, however, contend that independent medical examiners who reliably dispute workers' doctors are hired more often by insurers. Some workers cynically refer to them as "insurers' medical examiners."

Shu-Ying Xu, 66, a home health aide, said she met with an independent examiner in October 2006 so he could review the back, neck and leg injuries she suffered when she tried to prevent a patient from falling.

She said the exam took two minutes and was so quick that the doctor, Wayne Kerness, an orthopedic surgeon, did not ask her anything.

As a result, she said, when the doctor filed his report he said she spoke English. She does not.

He said she took no medications. She said she took nine.

He said her disability was mild and she could resume work.

She said that she was in debilitating pain and that the Social Security Administration had already concluded that by its standards, she was totally disabled.

"She can't even hold a gallon of milk," said Peter Chang, her son. He had come along to the exam to translate. Since no questions were asked, he said he had nothing to do.

After checking his notes, Dr. Kerness said it was an error to have said that Ms. Xu spoke English. Otherwise,

he stood by the report. "What can I say?" he said. "People can say whatever they want."

He added: "I have my share of people I've found totally disabled and even recommended treatment that has been overlooked. I think I'm pretty heterogeneous."

A judge ultimately ruled that Ms. Xu's benefits should continue.

For decades, independent medical examiners were essentially unregulated. Reports were sometimes altered by brokers and exams often were done at airports, hotels or in the garages of doctors' homes. In 2000, a doctor examined five patients in a Long Island bar.

In 2001, the state introduced rules. Among them: doctors had to register with the board, work in a medical office and let workers record or videotape their exams. Claimants are permitted to bring along anyone they choose to witness or film the sessions.

While the law has helped, the process remains riddled with flaws. Lawyers and injured workers say many of the examiners still do brief, perfunctory, one-sided exams.

A small study conducted a few years ago at the Central New York Occupational Health Clinical Center in Syracuse found that the clinic's doctors and independent medical examiners virtually never agreed on whether a worker was disabled. When it can be proven that medical examiners have acted inappropriately, the compensation board revokes their certification — which has happened more often in recent years. But investigations are time consuming and only a dozen or so result in revocations each year.

William Gurin, the board's fraud inspector general, says his unit's limited resources are best focused on more fertile areas of fraud, such as employers who underreport their work force to save on insurance premiums.

Similarly, the board struggles to regulate businesses, from storefront exam factories to multistate networks, that help produce independent exams. Decades ago, insurers hired doctors directly. Now the job is increasingly done by third-party brokers called entities.

Entities are paid by insurers — around $500 or $600, say, for an orthopedic exam — and they in turn pay the doctor. Often, doctors submit dictated notes or checklists to clerical staff at the firms, who then draft the reports. Other times the notes go to transcription companies. The people preparing the reports may have no medical training.

Since 2001, the state has required entities to be registered. About 170 have signed up. But a fair amount of independent exam work is performed by companies that have never registered.

It was an unregistered company, Wine Medical Management, that arranged an independent medical exam of Santos Padilla, an injured worker, in 2006. The exam was to be done by Dr. Kerness, but it was canceled, and Mr. Padilla was seen by another doctor.

But somehow the compensation board received a report signed by Dr. Kerness recounting an exam that had never happened.

Dr. Kerness blamed the bogus submission on a clerical error by Wine. He said the company, using a

signature stamp, had affixed his name to a report he had not seen.

Wine went out of business last year. A former manager at Wine, Laura Urban, blamed the discrepancy on a transcription company that prepared the reports. Ms. Urban moved to Commander Management, another entity that was doing unregistered work until the board ordered it to cease.

The board is looking into the Padilla episode, and has pledged to crack down on unregistered I.M.E. entities. Only a handful have ever had their certifications revoked, usually not for creating shoddy reports but for failing to pay their doctors.

Robert Grey, a claimant lawyer, said the board should track the opinions of independent medical examiners and compare them to ultimate verdicts, and then exclude doctors who were constantly found not credible.

Currently, the best protection for a worker is to tape an exam. But few do. The board does virtually nothing to promote the practice, and some doctors do not like it. When a woman brought a camera to an appointment upstate, the doctor called the police to toss her out.

Ms. Houlder, 63, who hurt her ankle, videotaped her exam by Dr. M. Pierre Rafiy, a 77-year-old Long Island orthopedic surgeon.

In the videotape, Dr. Rafiy grasps Ms. Houlder's right ankle and says it is swollen. In the written report, he stated that there was no swelling and no disability and that she could return to work.

When subsequently deposed, he backtracked, saying it had been a secretary's mistake to say no disability. He did not correct anything else.

Asked about the exam in an interview, Dr. Rafiy said: "I have no way to know if she had real pain. You have to remember, a lot of people don't want to work. They lie a lot."

Examiners, or Advocates

Dr. Samuels, 79, with a radiant smile and a burst of snowy hair, stopped doing surgery years ago. Until recently he commonly filled his days performing insurance exams on workers, sometimes as many as 50 in an afternoon, he said in his small office in Borough Park, Brooklyn.

"You obviously can't spend a lot of time with that volume pushing up your back," he said. "You have to assume there are going to be errors. Look, there are a lot of holes in this thing."

At times, evidence shows, Dr. Samuels's official reports were quite different from what he appeared to find during an exam.

Consider his 2007 examination of Johanne Aumoithe, a pastry chef who said she had hurt her arm and neck. On a videotape that Ms. Aumoithe recorded on her cellphone, Dr. Samuels comments that she had limited range of motion. His written report concluded the opposite.

Asked about the discrepancy in an interview, Dr. Samuels chuckled and said he could not even recall the people he saw yesterday. The way he worked, he said, was to submit a checklist to a Queens company called

All Borough Medical, which transformed it into a narrative.

"I never write a sentence," he said. "It's really crazy, but that's how it's done."

He often inserted numbers in the checklist — say, a measure of hand strength — after the person left, rather than as he performed the tests.

Was he sure they were correct? "I'm not sure of anything," he said. "They're just a guess in the first place."

The law requires a doctor to attest to the accuracy of a finished report before signing it, but Dr. Samuels said he rarely read them. He doubted he had read the Aumoithe report. "I just sign them," he said.

If he seldom read them, how did he know they were correct?

"I don't," he said. "That's the problem. If I read them all, I'd have them coming out of my ears and I'd never have time to talk to my wife. They want speed and volume. That's the name of the game."

Dr. Samuels said he generally received about $100 for one of these exams.

The state does not regulate how much a doctor can make for an independent medical exam, though it does limit what a treating physician may charge an injured worker, and generally that is much lower for roughly equivalent work. Some examiners said insurers pay them by the session, say $1,500 to be available from 8 a.m. to 4 p.m. and handle whatever workers are sent to them.

An occupational medicine doctor deposed by Scott Clippinger, a claimant lawyer, said he charged $550 an hour for an independent medical exam. In 2006, Mr. Clippinger complained to the state board that the imbalance in fees "allows the carriers to purchase opinions." He asked the state why it was not following a clause in state law that says that independent medical exams "shall be paid according to the fee schedule."

The board's response was that while the law "does provide that I.M.E. fees shall be paid according to the fee schedule, the fee schedule does not specify a particular fee for an I.M.E."

Dr. Edward Toriello, a Queens orthopedic surgeon who cares mainly for his own patients, said he is paid nearly twice as much for an independent medical exam than he is for seeing a workers' compensation patient he treats ($250 versus $140).

Like many who perform the exams, he views the compensation system as bloated with charlatans. Dr. Toriello, who does about 30 such exams a week, estimates that 80 to 85 percent of the time he finds no disability or need for medical treatment in workers whose doctors have found otherwise. He says the disparity is explained by the "comp mentality."

"I think it's human nature to help your patient," he said. "I think a lot of doctors say: 'I don't need the aggravation. It doesn't hurt to keep him out of work.' "

Dr. Zimmerman, of Queens, said he believed that 75 percent of people getting workers' compensation did not deserve it, but also said he was not surprised to hear that insurance lawyers in Queens said his opinions were overwhelmingly disregarded by judges.

"Judges come up with wrong decisions a huge amount of time," he said. "The lawyers work it so that anyone who scratches their toenail deserves equal treatment as someone who fell out of a 40-story building."

Sometimes, a review of cases shows, there are stark discrepancies between the testimony independent medical examiners give at trial and their reports.

Twice in 2005, for example, Dr. Francis O'Malley, a Long Island orthopedic surgeon, testified that a disability was more serious than indicated by his reports.

In one case, Dr. O'Malley testified that a man who had hurt his back lifting packages had a "marked" partial disability. The report described the injury as a less severe "moderate" disability.

When confronted with the discrepancy, Dr. O'Malley testified, "I don't know what's going on."

The reports were filed on Dr. O'Malley's behalf by Hooper Holmes, a national medical services company that operated an I.M.E. entity. The company said that it always submitted exactly what doctors gave it and that it believed Dr. O'Malley, who is 78, was confused. Dr. O'Malley did not return calls for comment.

In the case of William Cassone, the plumbing company driver whose father taped his examination, the exam by Dr. Samuels was arranged by All Borough Medical, an unregistered I.M.E. entity, which got the assignment from another registered entity.

Mr. Cassone had been injured years earlier but was being examined because, as he says on the videotape, he had suffered a second, recent injury.

But Dr. Samuels's report made no mention of the second injury and deemed Mr. Cassone able to work. When Mr. Cassone got the report, he said, "I was screaming so much I left the house and slept in the car."

Dr. Samuels later swore in a deposition that the report was accurate. A few weeks later, though, the board received an addendum signed by Dr. Samuels saying he had viewed the videotape and, yes, he had been told of the second injury. Still, he found no evidence of disability.

All Borough declined to comment on the case and its business.

Dr. Samuels said in a recent interview that he had never seen the addendum or the videotape and doubted he had read the original report. He said All Borough must have prepared the addendum without his knowledge.

"This is the first I've heard of this," he said. "Listen, there's a lot of hanky-panky that goes on."

Mr. Cassone's lawyer, Michael Pyrros, told a judge at a hearing that he was concerned there might have been fraud involved in the conduct of Dr. Samuels, the I.M.E. entity and the insurer. When the Cassone case next came before a judge, late last summer, a deal was reached between lawyers to grant Mr. Cassone benefits. Fraud allegations were dropped against the insurer.

Dr. Samuels, who was told to appear at the hearing, did not show up. According to a letter from his lawyer, he was unwell. His behavior was never addressed. Soon after, he retired, his official record unblemished.

Disability in the Chronic Low Back Pain Patient May Be Iatrogenic

John D. Loeser and Mark Sullivan†*

For each ailment that doctors cure with medications (as I am told they do occasionally succeed in doing they produce ten others in healthy individuals by inoculating them with the pathogenic agent a thousand times more virulent than all the microbes–the idea that they are ill.

Marcel Proust, Guermante's Way

Society has asked physicians to serve as gatekeepers for certain social welfare benefits through the determination of disability. The medical determination of disability rests on the distinction between medical impairment and social disability. This distinction cannot be established rationally in chronic low back pain patients. Determination of disability therefore rests covertly on nonscientific factors. Attribution of low back pain disability to an underlying disease often magnifies disability. Medical education and compensation programs both need a better understanding of the social origins of disability, if the rising tide of disability due to low back pain is to be stemmed. **Key words:** *disability, low back pain, iatrogenic, compensation*

Disability is a social construct that cannot be defined by focusing exclusively on medical factors affecting an individual. Instead, it is a measure of one of the critical relationships between an individual and his or her society. Physicians have been made the gatekeepers for every disability system since the first system was created by Bismarck in 1870. We believe that the physician's determination that low back pain is a medical cause of disability can contribute to the perpetuation of behaviors that prevent the restoration of socially valuable activities, such as gainful employment. By sanctioning disability ascribed by the patient to low back pain, the physician communicates to the patient not only society's legitimation of non-working status, but also that there are derangements of body function that cannot be altered through patient efforts at rehabilitation. Thus, the claimant is not held responsible for his or her present non-working status, nor is he or she given any assistance in climbing out of the illness and disability morass. Since there is now copious evidence that disability ascribed to low back pain is a treatable condition if the claimant's full participation can be elicited, the physician who certifies a chronic low back pain patient as permanently disabled risks perpetuation of the non-work status and may magnify the patient's suffering.[34]

Working, in or out of the home, is the primary productive social activity for most adults. Its value to the individual far transcends the remuneration received.[4] Work provides a skill, an identity, and a sense of accomplishment. Disability certification can lead to social as well as economic impoverishment for the worker and his or her family.

DEFINITIONS

It is first important to identify the terms that are commonly used in any discussion of disability. We will use the definitions promulgated by the World Health Organization, as these are widely accepted and are used in almost all jurisdictions.[35] The medical evaluation of disability claims relies on the distinction between impairment and disability. Impairment is defined as any

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loss or abnormality of psychological, physiological, or anatomic structure or function. It is commonly accepted that physicians should be able to evaluate the presence and extent of an impairment. The American Medical Association has published guidelines to provide standards.[7] The description of impairment when the patient has sustained the actual loss of a body part or overt loss of function (such as blindness, limb amputation, or paraplegia) does not exceed the physician's abilities; nor are such assessments difficult to adjudicate. But the idea that impairment is purely a medical concept independent of the social context of function is a fiction. The determination of impairment must consider the type of activities and thoughts that a society expects of a person of similar age, gender, and experience. The importance of such functions varies among individuals within a single society, as well as between different cultures. For example, a minor alteration in the function of the sciatic nerve after disk surgery is not likely to be an impairment if one is a secretary, but a basketball player with a similar lesion may be totally unable to perform his or her occupation.

Disability is defined as any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being. It is clear that one must define the individual's expected role in society to begin to make a determination of the existence and extent of disability. The extent of disability that can be ascribed to a clear-cut impairment has long been acknowledged to be problematic for the physician.[1] A triple amputee was the director of the Veterans Administration; impaired he was, disabled from this job he was not.

The major problem lies in claims for disability stemming from what can best be described as occult or subtle injuries. These contrast with overt or obvious injuries, such as loss of a body part, fracture, or laceration. All observers of a patient with an obvious injury can agree on the amount of impairment and, theoretically, on the extent of disability it can be expected to produce. In subtle injuries, there is no observable structural deficit; hence, impairment is obscure. Chronic low back pain is most often the result of a subtle injury. In the vast majority of cases no broken part can be found to account for the pain. However, the social impact of low back pain is not subtle. Repeated analyses of Workers' Compensation systems and the Social Security Disability Insurance (SSDI) program have identified that disability ascribed to low back pain is a major cost. For example, our review indicated that back strain or sprain constituted 9–26% of all industrial disability claims and 26–42% of all wage replacement and health care costs.[13]

Disability insurance systems rely on physicians to certify both impairment and disability. It is, therefore, reasonable to ask the question if the explosion in disability ascribed to low back pain in the United States is to some degree a product of the medical aspects of disability determination, in which physicians are compelled to make nonmedical decisions. Though physicians were initially the inadvertent and reluctant gatekeepers for the determination of both impairment and disability in the United States, it has now become a routine, if not unavoidable, part of patient care to play this adjudicative role.[18]

DISABILITY AND PAIN

The major problem area in disability determination is centered on the complaint of pain. There has been an explosion of claims for disability due to low back pain in the United States and other developed nations in the past 50 years.[32] The terminology surrounding this complaint must be clearly articulated. Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.[24] Pain is both a sensory and an emotional experience. It is not necessarily proportional to tissue damage or nociception. Even in postoperative pain, when the stimulus is relatively well defined, the response of the patient may vary: requests for pain-relieving medications, time in bed, self-rating of pain levels, for example, are not predictable. There are many well-recognized chronic pain states that do not involve injury to the part of the body that hurts. Indeed, phantom limb pain reveals that one can even have pain in a nonexistent body part. People complain of low back pain in the absence of pathology that can be identified with today's technology. Yet, very few are malingerers; pain without identifiable pathology is not the same thing as malingered pain. Pain may be a delusional symptom and part of a psychosis, but only for a very small fraction of patients.

It is important to recognize that the stimulus leading to pain can rarely be quantified in the clinical setting. This distinguishes pain in patients from pain in experimental paradigms, in which it can be shown that stimulus intensity is an important determinant of pain. Like it or not, we cannot measure how much sensory information is traveling in the nerves to the central nervous system. Our knowledge of anatomy, physiology, and pharmacology does not tell us who hurts and how much they suffer. We know that the reported pain from a splinter under a fingernail is much greater than that from a similar trauma on the back of the hand, and we can correlate this with the density of nerve endings and number of nerves that go to each area. Cognitive, affective, and environmental factors all influence how much pain an individual reports from a known stimulus; clearly, they all play a role in pain in our patients.[23] Beliefs about the sig-

nificance of the symptom, catastrophizing rather than actively coping, feeling out of control, to identify three from a long list, all will influence the magnitude of the individual's pain report and behavior.[26] Pain behaviors also include submission and duration of disability claims.

Suffering is the affective response to pain: it is best thought of as the emotional response to perceived threats to the physical or psychological integrity of the person.[5] Suffering is guided by both past experiences and the anticipated consequences of the present pain. The possibility that anticipated consequences might influence the interpretation of a sensory experience further weakens the tenuous relationship between a noxious stimulus and the report of pain. People suffer not only from pain, but also from fear, loss of loved objects, isolation, and stress. The language of pain is used throughout the world for all suffering and further confounds the interpretation of the patient's complaint of pain.

Pain behaviors are what an individual does or does not do that can be ascribed to his or her pain. These include saying ouch, grimacing, lying down, taking pills, going to doctors, or refusing to work.[20] All pain behaviors are real and all are influenced, not only by the events inside a patient's body, but by the world around it as well. Regardless of the etiology of the patient's pain, environmental factors can be expected to play a significant role, as human behaviors are always exquisitely sensitive to their consequences, whether they occur inside or outside the body. Pain is only one of the many negative experiences we encounter.

When a pain problem has been present for a long period of time, the originating factors may no longer be those responsible for the perpetuation of the pain complaints. It is imperative that the assessment of a chronic pain patient include not only those factors that might have originally led to the complaint of pain, but also the environmental as well as internal factors that maintain the patient's distress and inability to carry out normal activities.[11]

It is also important to recognize that low back pain does not distinguish the patient or claimant from the remainder of society, as 75% of adults have some back pain.[16] In fact, there is a very loose relationship between saying that one has low back pain, seeking health care for low back pain, and claiming disability due to low back pain. What is a distinguishing feature between those with low back pain who work and those who do not is better described as the inability to tolerate employment, where work intolerance is ascribed by the patient to events in the back. The importance of work as the marker of a social contract between the individual and his/her society cannot be overestimated.[4] Working status is a key determinant of how one perceives one's health.[27] "Work is an essential part of being alive. Your work is your identity ... There's such a joy in doing work well."[30]

The worker's complaint of low back pain can be the hallmark of intolerable stress in the workplace and serves to prove his/her entitlement to redress. We have shown that the rate of claim submission for low back pain is a function of the standard measures of socioeconomic stress in the community: food stamp rate, mean wage, and unemployment rate.[31] Disabling back pain is often a symptom, not of a broken back, but a broken contract between the individual and society concerning work. Making a claim for disability may be the only way a worker has power to change his or her work environment. Although Workers' Compensation was originally designed to address problems in a physically dangerous workplace, it is now frequently used to deal with the perceived dissatisfactions and injustice and oppression of the workplace.[15]

Low back pain for most claimants of disability is usually not the result of broken parts or progressive disease.[33] The broken work contract does not lie within the patient's body. That is not to say that there are not some individuals who have discrete pathology in their tissues leading to low back pain.[21] As yet, however, over three-fourths of the patients with low back pain cannot be given a verifiable diagnosis.[10] Moreover, repeated studies have shown that factors outside the claimant's back, such as work satisfaction and control over pace and quality of work done, strongly influence claims incidence and duration.[2,30] Compensation alone does not account for the epidemic of low back pain disability. Women who work inside the home, and are not covered by any compensation system, also develop disabling low back pain.[17] There is no compensation system to blame for their behavior. They are equally likely to lack observable pathology that explains their symptoms. They are just as likely as those employed outside the home to have affective disturbances and to be responding to environmental contingencies. Effective treatment follows the same rehabilitative principles as those for patients receiving compensation. This again suggests that disability ascribed to low back pain is a symptom of the broken social contract.

The medical approach to disabling low back pain treats the pain as primary and the disability as secondary. We argue that the disability is primary and the pain secondary. Physicians usually do not understand the meaning of work or why people need to work. The damage physicians do to patients by recommending work abstinence is immense. Rest has very limited therapeutic benefits in a chronic pain patient; physical fit-

ness is dependent on ongoing physical activity. The medicalization of suffering has led us away from the recognition of the patient's true problem. We have created new categories of disease, such as repetitive strain injury or low back pain, and its multiple, unproven anatomic labels, such as facet syndrome, diskogenic pain, myofascial pain, and strain or sprain, to exonerate the disabled from responsibility for their illness. The illness is inability to work; the treatment is return to some form of work. Psychological, social, vocational, or educational factors may impede the return to work; yet the physician and the patient focus on the pain. The pain is certainly real, but only one of the factors that affect the ability to return to work. The worker, the employer, the compensation system, and broader social forces all influence the submission and outcome of a claim for disability based upon low back pain.

PHYSICIAN-GENERATED DISABILITY

There are several ways that physicians can be responsible for the production of disability in a patient. Both iatrogenic injury and iatrogenic disability must be addressed. Iatrogenic injury can be due to the accidental side effects of appropriate treatment. Every medical or surgical treatment has potential complications that are beyond the control of the physician. Some physicians will experience more of such complications because they are not as careful, skillful, or intelligent as others. Patients have different risk factors in addition to the condition leading to the complaint of pain. Complications of appropriate health care can lead to permanent impairment and thence disability. They are to some degree inevitable. At times patients are given inappropriate treatment. This can be due to an error in either diagnosis or treatment on the part of the physician. All of these therapeutic misadventures are known to physicians and should be discussed with the patient as part of informed consent. Better diagnostic and therapeutic strategies may lead to reduced disability by preventing impairment related to tissue damage that occurs during treatment. Excessive or inadequate diagnostic strategies can lead to inappropriate interventions and unnecessary impairment and disability.

This issue is particularly acute in the problem of the management of low back pain. It is not unexpected that treatment strategies will vary, for diagnostic strategies are idiosyncratic and different specialists perform different assessment strategies that are likely to lead to different treatments. Rates of surgery vary widely from region to region in this country. We have the highest rate of surgery for back pain of any country in the world. What type of operation is performed is also highly variable. The proper role of lumbar fusion in the management of low back pain is not known; yet vast numbers of fusions are performed in the U.S. Risks of complications are significantly higher with fusions and costs are certainly more. Patients are subjected to these hazards in the absence of any data on efficacy.[9]

Reviews of patients with failed back surgery syndrome have indicated repeatedly that the original operation was not warranted in the majority of these patients.[22] To some degree, continued disability may be ascribed to their surgery, and is, therefore, physician-generated disability. In addition, the history of having undergone surgery to treat a problem itself contributes to the calculation of the amount of permanent partial disability, without regard to the success or failure of the procedure, or the propriety of the indications for such an operation.

Iatrogenic disability can be identified in the proscription of patient activities on the premise that rest or inactivity are therapeutic. Rest may indeed be appropriate care for an acute injury, but it is of dubious value for patients with chronic pain. Indeed, repeated studies have shown that prolonged bed rest does not hasten recovery, even from acute back pain.[9] Telling a patient to go to bed certainly prevents gainful employment and promotes disability. Excessive immobilization of an extremity can lead to loss of function and the inability to perform one's responsibilities. In addition, the patient will interpret the problem as quite severe if he or she is told not to use the part. This can lead to increased disability due to fear of causing harm.[34] The physician should be very careful not to create unnecessary disability by restricting the patient's activities, unless there are valid reasons to believe that activity might impede healing or result in tissue damage. Therapeutic values of inactivity are short-lived; deleterious effects on all organ systems have been documented to follow disuse.[3]

Medications may also lead to side effects that alter the individual's ability to perform job-related activities. These may vary from constipation to dizziness, somnolence, sleep disturbances, and cognitive and affective deterioration. As with all other forms of treatment, there are complications related to medications that can lead to increased likelihood of disability. Iatrogenic disability also results from the prescription of medications on an as needed (p.r.n.) basis. The patient is likely to believe that something serious is wrong when he or she is told to attend to the pain and to treat it with medication. What is particularly ironic is that the p.r.n. dosing scheme is much less effective than a time-contingent medication plan for pain relief. The p.r.n. system also meets the behavioral engineering criteria for the ideal method to increase drug consumption and pain behaviors, as patients earn pills and subsequent relief by having pain.[12]

Misinformation also can add to the likelihood of disability. The patient can be given instructions or pseudofacts that cause him or her to fear bodily harm if normal physical activities are undertaken. "Let pain be your guide" is likely to be a disastrous recommendation, whether applied to medications, exercise, or return to work. The linkage between hurt and harm exists only for acute pain; working through a chronic pain can actually be therapeutic. If there has been a physical injury, the physician should provide the patient with an expectation for healing time and the need for activity restriction. If pain persists beyond this time, reassessment, not disability certification, is indicated.

The insurance company and employer can be misled, either by intent, ignorance, or indifference. This can come about because physicians often are ignorant of the requirements of the patient's job and therefore cannot make an appropriate determination of disability. The physician may also order tests and overprescribe rest and inactivity as part of the defensive medicine approach to the avoidance of a potential malpractice claim that sanctioned activity led to some undesired outcome. Compensation-related forms are odious because they ask unanswerable questions and create the all-too-transparent illusion of a scientific determination of disability. They are often not completed on a timely or accurate basis; this may add to the duration of disability.

Unfortunately, it is the case that physicians may, either by intent or in ignorance, add to the patient's disability by collusion: with the patient, the insurance company, the employer, or the administrative bureaucracy. We have seen evidence of this in the review of patient's charts and other documents as part of our pain clinic assessment. For example, the patient who does not get a good result from an operation may cause the surgeon to feel guilty. The resolution can be the more-than-generous assessment of disability for the patient by the surgeon. Or, the physician may be friendly toward the patient and feel that he or she is entitled to some level of benefit even though the amount of impairment is minimal. The physician may have a political or moral agenda that leads to overestimation of the extent of disability; for example, the nature of employee-employer relationships, unions, overtime work, workplace safety, and social welfare programs. These factors argue for the separation of treating and rating patients.

In fact, the opposite is even more likely to occur, as physicians usually identify with the employer or the administrative system, to the detriment of the patient. Nowhere is this more clearly displayed than in the administrative hearings used to determine if the patient is medically stable and how much disability is to be awarded. Why is it that each of the parties wishes to hire his own expert witness? If the information reported was truly impartial and scientific, why are the opinions expressed often so discordant?

An appalling indirect iatrogenic insult occurs when the state compensation system makes use of a physician's certification to assist the patient to apply for SSDI. This only convinces the patient that he is, truly, totally, and permanently disabled; it does not get him any additional income, as the state reduces its benefits by whatever the federal government awards. Most important, returning to work from the SSDI roles is much less frequent than returning from the Workers' Compensation system.[36]

Overemphasis on disease distorts the determination of disability when the physician declares the patient to be medically stable even though an attempt at rehabilitation has not yet occurred. No one would declare a stroke patient to be stable prior to rehabilitation, why do so for a chronic low back pain patient? The efficacy of multidisciplinary pain management is far better documented than that of another operation, more pills, or more physical therapy.[19] Denying the patient a chance at rehabilitation dramatically increases the likelihood of long-term disability. It is also likely to incur unnecessary costs of both health care and wage replacement.[6]

Society seems to be requiring medicine to do its police work. There is no medical distinction between those who cannot and those who will not work because of chronic low back pain. Pain is subjective, does not correlate with historical or physical findings, and cannot be quantified. Yet, the disability evaluation system asks physicians to make just such a determination. Neither ethics nor science provides a solid basis for this decision. Physicians may generate disability in their patients by simultaneously playing both the role of doctor and that of adjudicator.[14]

We believe that physicians should get out of the business of determining what people deserve and back into the task of deciding what forms of health care may be beneficial to them. In those who claim disability due to chronic low back pain, society has asked physicians to determine medically those who cannot work and those who just will not work. There is no medical test capable of making this distinction.

SKILLS AND TRAINING OF PHYSICIANS

The curricula of most American medical schools remain quite similar and focus on the biomedical aspects of health care. The social sciences are under-represented in the curriculum and their position as "basic" to the practice of medicine is usually denied by the basic science faculty. The amount of knowledge about psychology, sociology, and medical anthropology imparted to most medical students is small. Since medical students usually are taught implicitly that such knowledge is not essential, what is retained is even less.

In the last 2 years of the average curriculum, attention is again focused on disease processes. Some mention of illness as distinct from disease may occur, but most medical students have too little access to health care providers other than specialist physicians and nurses. Students are exposed on the in-patient wards to the most severely ill patients and may not see the continuity of care which reveals transitions between health and illness. They learn that disease is discontinuous and fail to recognize that symptoms occur in people who are not patients. They assume that symptoms reliably lead to requests for physician assessment and treatment and are unaware of the coping mechanisms that many non-patients possess and utilize, often with more success and at less cost than those offered by health care practitioners. Medical students have little, if any, contact with the concepts of impairment and disability. The topics of occupational health, compensation systems, and the interrelationships between medicine and society are not often addressed. That society in general, and medicine in specific, may shape the disease and illness process is not taught to future doctors.

How the disability or compensation systems work is usually unknown to medical graduates. This is particularly damaging, as a significant part of both the primary care practitioner's and the specialist's practice is spent dealing with disability-related issues. We act like education in medical diagnosis and treatment is adequate training for the processes of disability determination.

Physicians are taught, quite correctly, that their first obligation is to the care of the patient. Most do not become aware of the tensions in society between the role of the physician as patient advocate and the police role of the physician in legislatively and administratively mandated activities. The medicalization of suffering has led to much of this problem; physicians have been assigned or have appropriated the functions of lawyers, priests, family members, and administrators.

The physician medicalizes these issues at real peril to the claimant-patient. Society likes to impart more knowledge and wisdom to physicians than they actually have, because it calls on physicians to decide who has a legitimate illness and who deserves to be relieved of the responsibility to work. The effects of providing the patient or an administrative agency with opinions about disability as if they were facts are not discussed. Society demands an expert opinion on disability but doubts its impartiality; hence the adversarial system of presenting medical evidence in disability proceedings. Although our medical graduates may have considerable knowledge of the molecular biology of disease, they lack rudimentary information about human behavior and the effects of social policies. Few understand the difference between compensability, a legal concept, and treatability, a medical concept. The needs of the patient, the family, and society at large are often confused.

Although the patient in the United States is usually allowed the free choice of his or her physician, any patient receiving health care sponsored by a compensation system is likely to find that the physician is acting also as an agent of the insurance company, the employer, or the state. This means that the physician is asked to play roles that may conflict with that of being the patient's confidant and advocate and health care provider. It also asks the physician to make social decisions that are not commonly identified as contained in the patient-physician relationship.[26] This conflicting set of expectations for the physician in the determination of disability can lead to distortions of the medical role. In rating disability ascribed to low back pain, moral assessment masquerades as medical diagnosis. For these and other reasons, physicians are no better trained than lawyers to determine which patients with low back pain deserve compensation.

ADMINISTRATIVE ISSUES

In the United States we have a chaotic non-system of administration of both health care and wage replacement programs for those who claim a work-related injury and are therefore entitled to benefits. Each state has its own Workers' Compensation system and the federal government has several of its own. The advent of Workers' Compensation and Social Security Disability laws met with concerted opposition from physicians, who early on recognized the problems with disability determination as a medical task. This topic is reviewed in the 1987 Institute of Medicine Report Pain and Disability: "... pain is a major problem for the disability program because it does not fit the medical model of impairment on which the program rests."[25]

Problems with the Workers' Compensation system have not escaped public scrutiny. An article in *Readers' Digest* identified the high costs of Workers' Compensation and the all-too-frequent abuses by workers, con artists, "medicolegal mills," capricious administrative and judicial rulings, and the redefinition of injury to include chronic stress as a compensable diagnosis.[29] A new category of disease has been created to exonerate workers from their illnesses and ensuing disability. This author recommended effective actions to curb "cheating," but we believe that this is a small contributor to the explosion in costs and numbers of claims for disability. Abuse of the system is a small problem; the big problems are abuse by the system and the distorted priorities and concepts on which all of the compensation systems are based. Workers did not create the compensation programs now in exis-

tence in the United States. To blame them for the conceptual and operational shortcomings is a form of messenger-killing and is not likely to lead to reasoned new strategies for dealing with the failure to work ascribed to low back pain. Clearly, both the health care costs and the wage replacement costs of the disability systems must be contained and even reduced. The inappropriate behavior of physicians in determining that low back pain is a cause of disability is counterproductive from the perspective, not only of the claimant, but also of those who must pay for the compensation systems.

There are several important issues lurking beneath the surface of the funding of health care for those who claim disability. First, for many workers, the only health care insurance they have is related to their employment; if an illness is not work-related, they have no health care benefits. It would be an unusual or naive patient, faced with a threat of loss of health care benefits, who would attribute a pain problem to non-work-related events. Second, once a work-related injury has been accepted as the cause of an illness, closure of the patient's claim can result in the loss of all future health care benefits. This tends to make the injured worker resist claim closure unless another source of health care benefits can be identified. This situation is compounded by clauses in health insurance policies that exclude preexisting conditions for a stated period or even indefinitely. Hopefully, proposed federal changes in health care funding will address these issues.

An analogous situation occurs with the federal disability system; the patient's only source of health care benefits may be SSDI or a similar federal benefit program. Termination of benefits is likely to result in the loss of all health care funding. The dollar value of the health care benefits for a patient expecting further hospitalizations and surgery may far exceed the value of the more obvious wage replacement.

CONCLUSION

Whenever one deals with a compensation system, it is important to recall that Franz Kafka earned his living as a clerk at the Workers' Compensation Bureau in Prague. Physicians should consider their roles in the disability process and initiate steps to modify the system. Pain and suffering cannot be dealt with rationally in a compensation system based upon the concept that impairment leads to disability. The diagnosis of disability in the patient with chronic low back pain can become a self-fulfilling prophecy through the process of iatrogenic injury and iatrogenic disability. Administrative, legal, and medical concepts must change to deal with the disaster of Workers' Compensation in the modern era.

Moreover, a cadre of physicians have chosen to make a living by assessing disability and impairment for labor unions, employers, government agencies, and attorneys. Many of these physicians have no specialized training in or out of medicine to prepare them for such duties. Others have chosen to retire from clinical practice and should not be expected to possess unique skills for the assessment of either impairment or disability. Such people carry the title of MD but make decisions about moral desert more appropriately made by lawyers and priests. Physicians should focus on diagnosis leading to treatment, not diagnosis leading to social welfare benefits.

Physicians should not determine whether or not the complaint of chronic low back pain should result in the award of disability. Health care should not be dependent on the disability system and must be available to all, regardless of their work status. Those who do not work because of chronic low back pain should be offered an attempt at rehabilitation and then retraining. Should they fail to return to work, they should be considered unemployed and should be eligible for appropriate benefits in this social support system. Physicians would be prudent to work for changes in the compensation systems in the United States, for they are corrupted by the existing programs and all too often contribute inadvertently to the disability epidemic ascribed to chronic low back pain.

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to be unduly influenced by the party paying for the IME" [19]. They recognize that "far more IMEs are ordered by insurance carriers and defense attorneys than by claimants and plaintiff attorneys." Most physicians who regularly perform IMEs work almost exclusively for the plaintiff or defense. This has the potential to bias the examiner toward the side that hires them most often. The authors continue: "Over a period of time, an IME physician develops a certain reputation based on his or her track record." These experts and IME physicians have in a sense already settled on their position before weighing the facts and science of the case [18].

The Adversarial System

It is up to the attorneys, not the experts, to advocate for their clients. Adversary theory argues that the "battle of experts" should even out, and in theory at least, the potential biases of the two opposite experts with their respective potential COIs should balance each other. If this were true, the evidence alone would determine the outcome rather than the biases, personalities, experience, and style of the respective experts [21]. Unfortunately, this may not be the case in reality. Ultimately, it is up to the arbitrators, judges, and juries to weigh the evidence that the experts present against the potential for bias of the experts before rendering a decision.

In theory, the expert witness is an educator for the court, and offers testimony that is honest, scientifically based, and unbiased. In theory then, a single expert could evaluate the patient and the science, present both sides of the issue fairly and without the potential for bias, and leave it to the court to determine the outcome by weighing the evidence. In theory, expert witnesses would truly be medical experts, recognized as such by their peers. Courts could maintain a panel of experts and the attorneys would choose one to review the case, present it, and offer an opinion subject to direct examination by both attorneys [19].

In reality we have an adversarial system [21]. Unfortunately, in our current system, it is no longer expected that an expert's opinion will be fair and balanced. An expert witness physician is "not expected to excel in fair and probing analyses of all sides of issues" [21]. In fact, at least at trial and deposition, the expert's opinions are very dependent on the questions the attorneys ask during direct and indirect questioning. As a result, the system puts a great deal of weight on the respective abilities of the attorneys rather than the true expertise of the witnesses [21]. It becomes the job of the attorney to ask questions that emphasize one side of the issue. It is then up to the opposing attorney to bring out the opposite perspective during cross-examination, at which time the expert is ethically bound to answer truthfully and fully.

Qualifications of Medical Experts

The concept of "expert" differs greatly when used by the legal system as opposed to when it is used by physicians. A judge will frequently qualify a doctor as an expert even though other physicians or scientists might not regard that doctor as a true expert in the particular field [22].

Several medical societies have offered guidelines for qualifications of an expert witness. Many equate the standards for medical-legal opinions with the standards for clinical practice. Several examples should suffice. The American Academy of Neurology guidelines state that a medical expert should be in active practice caring for the type of patient involved in the legal action [4]. If a medical expert is not in an active practice, he or she should be able to demonstrate competence to provide an opinion in the specific area of interest. Evidence of competence might include relevant publications or active teaching of students or house staff in the specific area during three of the 5 years that immediately precede the date on which the opinion is offered. They also suggest that the expert witness should be prepared to state if the opinion is based on personal clinical experience, published evidence, or prevailing expert opinion [4]. This would imply the ability to cite the specific literature or other sources of expert opinion.

The American College of Surgeons offers that the physician expert witness should be prepared to state the basis of the testimony or opinion—whether it is based on personal experience, specific clinical references, evidence-based guidelines, or a generally accepted opinion in the specialty [7].

Current Medical Evidence as a Basis for Testimony and Opinion

The science of medicine changes rapidly. Much of what physicians learned in medical school or residency training becomes outdated and may subsequently even be proven incorrect. Taking care of patients is a powerful motivation for physicians to keep up with the swiftly changing knowledge.

Treating physicians know they cannot rely on older information alone. They know that much of what they were taught in the past was based on anecdotes and experience rather than good science. Therefore, they have an obligation to read the literature and attend high quality medical education courses. Treating physicians are being held to the higher standard, evidence-based medicine (EBM) and its logical outcome, evidence-based practice.

The IME physician and physician-expert should be obligated to keep current as well. They should be held to the same evidence-based standard in the areas in which they will offer themselves as expert. Physicians who provide expert testimony should have recent and substantive experience or knowledge in the area in which they testify [2]. Their testimony should reflect current scientific thought and standards of care that have gained acceptance among peers in the relevant field [2]. This requires that experts be current in their field of expertise, and revise old opinions as new information is published. However, to paraphrase Upton Sinclair "it is difficult to get a man to understand something when his income depends on his not understanding it."

The American College of Surgeons stresses that the physician expert witness should be able to demonstrate evidence of continuing medical education relevant to the specialty or the subject matter of the case [7]. The North American Spine Society guidelines state that an expert witness should be engaged in the active practice of medicine or, alternatively, should be able to demonstrate sufficient familiarity with present practices in the area of his or her testimony to warrant designation as an expert witness [5]. American Academy of Neurological Surgeons guidelines state that the expert shall be very familiar with prior and current concepts of standard practice [6].

Few checks exist on what medical experts can (and *do*) say in evaluations or in court, and that it is up to the cross-examination to provide these checks and balances [19]. The American College of Obstetrics and Gynecology and other societies advise that the expert must be prepared to have his or her testimony subjected to peer review by an organization to which he or she belongs. Many societies are doing just that when complaints of biased and perhaps unethical testimony are filed [23,24].

The Federal Court system has recognized the problems of unscientific expert testimony and has set guidelines referred to as the Daubert standard [2,14,23]. The judge is considered the gatekeeper, and is responsible for insuring that scientific testimony is both relevant and reliable. Daubert mandates that for information to be admitted as evidence, the scientific theory must be testable and tested, subjected to peer review, and preferably published. The science must be generally accepted by the appropriate scientific community [2,26]. In other words, Daubert requires good science. Opinions of the expert cannot be admitted based solely on the experience of the expert. The courts are saying in effect, "let the evidence speak" [27].

Continuing Education and Learning

Evidence-based medicine and practice offers one solution to some of the ethical problems in medicine [8,25]. EBM can be as valuable in medical-legal work as it has proven to be in clinical care [8]. There could be a significant improvement in medical-legal practice if expert witnesses and IMEs were required to support their positions using an evidence-based standard.

Some physicians find it difficult to change their practices and their opinions. Despite new literature and better science, some treating physicians and experts might cling to old and deeply entrenched beliefs. This is partly explained by the primacy effect of learning theory, which teaches us that "things learned first are things learned best." This can be true in clinical care as well as in the medical-legal field, even when new and better information is available.

Another powerful learning tool is feedback. Feedback provides a mechanism and opportunity for learning through self-correction when a decision or opinion was wrong and positive reinforcement when it was right. A treating physician receives feedback from patients, peers, and consultants. An IME physician or expert witness physician does not have the benefit of this type of feedback, and consequently no feedback-learning occurs.

For the expert physician, this should not be too formidable a task. A physician should be familiar with the literature to be considered an expert in a particular area of medicine. It is a small task to do a recent literature review for updates. If the case at hand is outside the expert's true area of expertise, the doctor can easily and quickly search the literature online. There are abstracts and links to the full papers and other related articles. Perhaps more important, there are systematic reviews in which the authors have searched, reviewed, and analyzed the literature. There are also narrative

reviews, new original research, and expert opinion articles available. The expert can then consider the current evidence when formulating an opinion. It is no longer reasonable to rely on what was learned in residency training, from older textbooks or from personal experience.

Summary

- It is a reasonable and proper part of medical practice to be an expert witness and independent medical examiner.
- It is reasonable and proper for the treating physician to serve as an expert witness.
- All expert witnesses and IMEs have a potential COI and the potential for bias.
  - It is imperative that an expert witness recognize the potential for bias, and reflect upon it both in general and case by case.
  - The greatest potential for bias exists among physicians who devote the majority of their practice to performing medical-legal evaluations and who perform most or all of these evaluations for one side.
- A physician's opinions and testimony should be evidence-based.
  - Testimony and opinion should be based on the best available published medical evidence and when the evidence is not definitive, opinion and testimony should be based on published expert consensus opinions.
  - Personal experience alone is rarely sufficient to be used as the basis for an expert medical opinion or testimony.
- Physicians are obliged keep current in the area of expertise in which they are to testify and be able to cite or present the literature or other sources upon which they have relied.

Consensus of Qualifications and Guidelines for Expert Witness Testimony and Independent Medical Evaluations [2–7]:

Qualifications
- Physician should have a valid license to practice medicine.
- Physician should be board certified, board eligible, or an equivalent.
- Physician should have specialized training, knowledge, and/or certification appropriate to the issues in the particular case.
- Physicians should be able to demonstrate relevant continuing medical education appropriate to the issues in the case.
- Physician should be in active practice of clinical medicine.
  - If not in active practice, physicians should demonstrate expertise by actively teaching medical students, supervising residents or fellows, or teaching peers; or be currently or recently involved in research and/or authorship of relevant peer reviewed Literature.
- If >20% of a physician's practice is medical-legal work, the physician should be prepared to demonstrate competence to provide an opinion that is not biased by financial considerations.

Guidelines for Testimony and Reports
- Testimony and reports should be accurate, impartial, relevant, and based on current scientific evidence.
- Testimony and reports should avoid the role of advocate for the party.
- Respect the privacy and confidentiality of patients.
- Testimony and reports should state the basis for the opinions expressed and whether they are based on personal experience, medical references, evidence-based guidelines, or generally accepted opinion in the specialty.
- Compensation should be reasonable in relation to time spent and effort expended.
- Testimony and reports should meet the highest scientific standard and the physician should testify as if the opinions and their basis are subject to peer review.

Ethics
- There is a duty to testify.
- Testimony should be honest.
- Testimony should be evidence-based.
- Standards articulated should not represent the expert's view to the exclusion of other choices for which there is appropriate evidence.
- It is unethical for a medical expert to tie the level of compensation to the outcome of the case.

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Appendix I

Examples from Clinical Practice

Case example 1

Patient 1 is a 38-year-old broker in good health with no history of low back pain until a motor vehicle collision (MVC) in which she was the fully restrained driver of a vehicle forced to make a sudden emergency stop. Her right leg was forcefully extended on the brake when her car was struck from the rear by an SUV doing about 45 mph. She has had immediate low back pain and now has persistent buttock pain radiating to the right groin and right posterior thigh for 11 months since the MVC. She has been able to work only half-time since the MVC. Physical examination shows tenderness over the right but not the left sacroiliac (SI) region, positive FABER maneuver on the right but not the left, and a normal neurological exam. Plain radiographs and lumbar spine magnetic resonance imaging (MRI) scans are normal. An interventional pain specialist performed a fluoroscopically guided SI joint injection with local anesthetic only and she had 90% relief of pain. Subsequently, he performed an SI joint injection with corticosteroids. The patient did well for 4 months, symptoms recurred, and a second injection was performed. She has done well since and returned to full-time work. She filed a law suit seeking compensatory damages.

The defense attorney sent the patient to a neurologist who specializes in noninterventional pain

management. He testified that the patient suffered a lumbar strain, should have gotten better in 6 to 8 weeks, the injections were not necessary, and she continued to have pain only because of the potential for financial gain from the litigation. Under oath he continued that the SI joint could not have been injured in such an accident, the SI joint is never a source of pain unless fractured or involved by a systemic inflammatory arthritis, the normal radiographs and MRI prove nothing is wrong, and all her medical care after 6 weeks was unnecessary. When asked what he has read about the SI joint recently, he cannot cite any references nor did he seek any when preparing to testify. When shown a comprehensive narrative review in a leading peer reviewed journal, he states, "Oh they'll publish anything.

Case example 2

Patient 2 is a 50-year-old computer scientist who slipped and fell on an unmarked wet floor at a large retail warehouse store and suffered a severe ankle sprain. He was placed in an air cast, slowly improved, began physical therapy, and returned to work. Over the next several weeks, he began to develop pain in the right foot and ankle that slowly spread to the entire lower leg. He found the pain difficult to describe but it was burning and dysesthetic in nature. He found it increasingly difficult to walk and was referred to a pain specialist. Exam revealed allodynia including marked pain with active ankle range of motion. She diagnosed complex regional pain syndrome and treated the patient sequentially with anticonvulsants, tricyclic antidepressants, and topical agents with only minimal improvement. She then prescribed opioid analgesics, and increased the dose until pain was under reasonable control and side effects were tolerable. She discussed spinal cord stimulation (SCS) as another treatment option, but the patient deferred for the present. Because the patient had been off work for a year, he lost his job. He filed a law suit.

The defense attorney sent the patient to a physician who is no longer seeing patients for care for an independent medical evaluation. The doctor testified that all the symptoms were subjective and "there were no objective findings." He stated that the patient was addicted to narcotics, and should be "detoxified" from opioids. Thereafter, no medical care would be necessary. When asked about the possibility of SCS, he stated "we gave that up 20 years ago." When asked what he had read about complex regional pain syndrome, reflex sympathetic dystrophy, neuropathic pain, opioids, or SCS in the last several years or when preparing to render an expert opinion, he stated that "there was nothing new in the field."

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American Academy of Neurology

American Academy of Neurology elaborates expert witness guidelines

ST. PAUL, Minn. - The American Academy of Neurology has updated its guidelines regarding physician expert witness testimony in legal proceedings. The guidelines appear in a special article online as an "expedited e-pub" of Neurology, the scientific journal of the American Academy of Neurology (AAN).

Medical expert testimony is defined by three components: 1) the medical evaluation, including a review of medical records and other pertinent data, or an interview and examination of the patient, or both; 2) an expert opinion based on the medical evaluation; and 3) communication of the opinion in the form of court testimony, deposition, affidavit, or answers to interrogatories.

In addition to having a valid and unrestricted license to practice medicine, physician expert witnesses should be fully trained in the specialty or subject matter related to the case. For instance, a neurologist who specializes in epilepsy would be an appropriate expert witness for a case regarding epilepsy. If a physician expert is not active in clinical practice when offering an expert opinion, the expert should be able to demonstrate competence to provide such an opinion, according to the qualifications outlined in the article.

Physician expert witnesses should conduct their testimony in an accurate, impartial, and relevant manner. The expert should acknowledge whether an opinion is based on personal clinical experience, published information, practice guidelines, or prevailing expert opinion, according to the article.

"There has been increasing focus on the conduct of physician expert witnesses over the last several years," said Michael A. Williams, MD, co-author of the article and the Chair of the AAN Ethics, Law and Humanities Committee. "The AAN's Qualifications and Guidelines for the Physician Expert Witness had not been changed since 1989, and we determined it was important to update them. Our goal is to promote expert witness testimony that is competent, truthful, and founded in scientific evidence."

The Expert Witness Guidelines supplement the AAN Code of Professional Conduct, and members of the AAN are expected to follow the standards set forth in both documents.

Murray G. Sagsveen, JD, another co-author and the general counsel of the AAN, explained that the AAN doesn't provide a referral service for expert witnesses for litigation purposes. "It is the responsibility of the attorneys representing the plaintiff and defendant to select expert witnesses who will follow the guidelines when providing expert witness testimony," said Sagsveen.

Following the expedited e-pub on www.neurology.org, the Qualifications and Guidelines for the Physician Expert Witness will be published in the January 10, 2006, print issue of Neurology.

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The American Academy of Neurology, an association of nearly 19,000 neurologists and neuroscience professionals, is dedicated to improving patient care through education and

research. A neurologist is a doctor with specialized training in diagnosing, treating and managing disorders of the brain and nervous system such as Alzheimer's disease, epilepsy, multiple sclerosis, Parkinson's disease, and stroke.

For more information about the American Academy of Neurology, visit www.aan.com.

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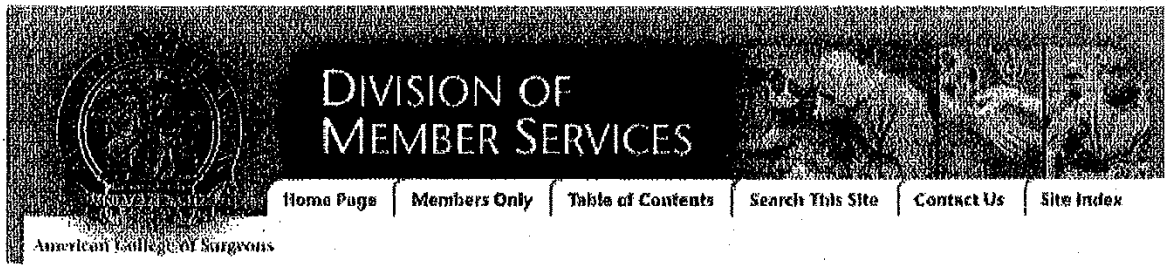

Statements on Principles

withdraw from the investigation at any time.

B. Scientific Publications
Presentation of results of an investigation must be governed by the principles of ethics. All authors must assume full public responsibility for the material presented. Surgeons should first report research contributions to professional audiences of peers and/or to peer-reviewed scientific publications. Many scientific organizations, scientific publications, and research facilities have rules governing news releases and require that approval be obtained before a news release is distributed to the media. In the event that an individual patient is identified, approval should be obtained from the physician who is providing care for any identified patient and equally important, permission should be obtained from the patient. The patient's right to privacy must be protected.

C. Public Relations
A surgeon's release of material to communications media or nonprofessional publications should be designated only for education and public information. Such releases must be accurate. They must not convey false, untrue, deceptive, or misleading information through statements, testimonials, photographs, graphics, or other means, and they must contain sufficient material information so that communications are not deceptive. Releases must not create unjustified expectations of results. If treatment through a surgical procedure involves significant risks, realistic assessment of the safety and benefit of the procedure must be included, as well as the availability of alternative treatments and their benefits and hazards. Releases must not misrepresent a surgeon's credentials, training, experience, or ability, and must not contain claims of superiority that cannot be substantiated. If a surgeon is reimbursed or sponsors a communication, that fact must be made clear to the public.

D. Advertising
By law, advertising is legal; prohibitions of truthful advertising are considered to be restraints of trade. An advertisement may include information about specialty training, board certification, type of practice, office hours, languages spoken, and other such information that might assist the patient in contacting the surgeon. Advertising must be truthful, both in terms of what is said and in what is not said. Similarly, any illustrations or photographs must be truthful. Advertising should not entice patients to undergo operations if better alternative treatments are available.

E. Expert Testimony
When appropriate, physicians have an obligation to testify in court as expert witnesses. Physician expert witnesses are expected to be impartial and should not adopt a position as an advocate or partisan in the legal proceedings. The physician acting as an expert witness must have a current, valid, and unrestricted license to practice medicine in the state, province, or region in which he or she practices. The physician acting as an expert witness should be familiar with the standard of care provided at the time of the alleged occurrence and should be actively engaged in practice of the specialty or the subject matter of the case during the time the testimony or opinion is provided. The specialty of the physician acting as an expert witness should be appropriate to the subject matter in the case. The physician acting as an expert witness is ethically and legally obligated to tell the truth. Compensation of the physician acting as an expert witness should be reasonable and commensurate with the time and effort given to preparing for depositions and court appearances. It is unethical for a physician acting as an expert witness to link compensation to the outcome of the case.

The American College of Surgeons has a more complete Statement on the Physician Acting as an Expert Witness.[5]

F. Impaired Physicians
It is every surgeon's responsibility to safeguard patients from harm as a result of the action or decisions of a colleague impaired by illness, aging, or substance abuse. In addition, there is a collegial and a medical responsibility to assist the impaired colleague in obtaining care, even if the individual must be reported to the appropriate authority to begin the steps toward adequate care.

G. Incompetent Surgeons
When incompetent patient management is recognized, the surgeon's responsibility is to assist the regular institutional peer review mechanism in remedying the situation. Physical, moral, or mental impairment that renders a colleague incompetent to care for patients, or that is associated with fraud or other malfeasance, should be disclosed to protect patients and society. On the other hand, it is indefensible to disparage the actions, knowledge, or skills of another physician for malicious reasons.

H. Maintenance of Fellowship
Maintenance of Fellowship is jeopardized by infractions of College principles as specified in the Bylaws of the American College of Surgeons. Fellows are expected to report knowledge of violations of these principles or of the Bylaws. When a Fellow is convinced that another Fellow is violating the Fellowship Pledge, the Bylaws of the College, or its principles, a confidential written communication should be sent to the Executive Director of the

NASS Code of Ethics

A. General Statement of Purpose

NASS has established a Code of Ethics for its members intended to serve as guidelines in medical, social, and professional relationships which occur in spine care practice. This code is a statement of ideals, commitments, and responsibilities of NASS members to patients, other health professionals, society and themselves, and thus may be considered as one of the measures used to evaluate a member's maintenance of good professional standing, and to evaluate qualifications for membership by applicants.

B. Ethics as They Relate to the Spine Care Provider

1. A NASS member shall serve as the patient's advocate and exercise all reasonable means to ensure that the most appropriate care is provided to the patient.
2. A NASS member shall not participate in any activity which is not in the best interest of the patient.
3. A NASS member shall recognize the boundaries of his or her particular competencies and expertise, and provide only those services and use only those techniques for which he or she is qualified by education, training, or experience.
4. A NASS member shall not publicize or represent himself or herself in any untruthful, misleading, or deceptive manner to patients, colleagues, other health care professionals, or the public.
5. A NASS member shall be actively involved in continuing medical education in order to keep current on new medical technology and information in spine care.
6. A NASS member shall not become dependent on alcohol, drugs, or involved in any other abusive practice. Should such occur, he or she should submit voluntarily to treatment and should accept recommendations of the local committee for evaluating impaired physicians or similar peer review committee.

C. Ethics of Relationships Between Health Care Providers

1. In those instances in which a spine care provider is identified as being incompetent, his or her medical colleagues shall bring this circumstance to that person's attention and refer him or her to the appropriate professional committee of his or her hospital or state society, if necessary. A spine care provider is determined to be incompetent, for purposes of this document, when he or she is found to be without adequate ability, knowledge or fitness, being assessed as incapable or unskillful and as failing to meet certain qualifications to practice in accordance with normally accepted national standards.

can accept reasonable honoraria and reimbursement of reasonable expenses if customary

2. A NASS member should not individually accept any gifts of substantial value or cash from industry. Members may accept modest, occasional gifts from industry if they benefit patients or serve a genuine educational function and have a fair market value less than $100 (textbooks and anatomical models excepted).
3. A NASS member should not enter into any academic or consulting relationship with industry that might influence his or her care of patients. If a conflict or apparent conflict develops between the physician's financial interest and the physician's responsibilities to the patient, the conflict must be resolved to the patient's benefit.
4. A NASS member must disclose to colleagues and patients, in a professional context, any financial relationships that he or she has with industry.

F. Ethics as Related to the Legal Profession

1. A NASS member shall respect the confidentiality of the doctor-patient relationship and shall not release Protected Health Information, as that term is defined in HIPAA, unless the patient has knowledgeably consented except as required by law.
2. A NASS member, as an expert witness, shall diligently and thoroughly prepare himself or herself with relevant facts so that he or she can, to the best of his or her ability, provide the court with accurate and documentable opinions on the matters at hand.
3. A NASS member shall cooperate with members of the legal profession in order that justice with mercy and compassion shall prevail.

G. Responsibilities of the NASS Member to Government

1. A NASS member shall always abide by the law of the land, but support changes in those laws which are contrary to the best interests of the patient and society.
2. A NASS member shall cooperate and deal honestly with governmental agencies involving those areas of health care of which he or she is a participant, but will preserve patient confidentiality.

H. Ethics Related to the Physician and Insurance, Compensation and Reimbursement Agencies

1. A NASS member shall be honest in financial dealings with the patient, insurance and health care financing agencies, and shall provide accurate, complete and timely information to those agencies.
2. A NASS member shall respond appropriately to requests for medical reports from private and governmental agencies involved in reimbursement and compensation for medically related services with the consent of the patient or the patient's agent, or as otherwise provided by the law.
3. Financial and administrative constraints imposed by managed care may create disincentives to treatment otherwise recommended by the spine care provider as in the patient's best interest. Any pertinent constraints should be disclosed to the patient.

I. Ethics Related to Community and World Affairs

Code *of* Professional Ethics

of the American College of Obstetricians and Gynecologists

Obstetrician–gynecologists, as members of the medical profession, have ethical responsibilities not only to patients, but also to society, to other health professionals, and to themselves. The following ethical foundations for professional activities in the field of obstetrics and gynecology are the supporting structures for the Code of Conduct. The Code implements many of these foundations in the form of rules of ethical conduct. Certain documents of the American College of Obstetricians and Gynecologists, including Committee Opinions and *Ethics in Obstetrics and Gynecology*, also provide additional ethical rules. Selections relevant to specific points are set forth in the Code of Conduct, and those particular documents are incorporated into the Code by reference. Noncompliance with the Code, including referenced documents, may affect an individual's initial or continuing Fellowship in the American College of Obstetricians and Gynecologists. These documents may be revised or replaced periodically, and Fellows should be knowledgeable about current information.

Ethical Foundations

I. The patient–physician relationship: The welfare of the patient *(beneficence)* is central to all considerations in the patient–physician relationship. Included in this relationship is the obligation of physicians to respect the rights of patients, colleagues, and other health professionals. The respect for the right of individual patients to make their own choices about their health care *(autonomy)* is fundamental. The principle of justice requires strict avoidance of discrimination on the basis of race, color, religion, national origin, or any other basis that would constitute illegal discrimination *(justice)*.

II. Physician conduct and practice: The obstetrician–gynecologist must deal honestly with patients and colleagues *(veracity)*. This includes not misrepresenting himself or herself through any form of communication in an untruthful, misleading, or deceptive manner. Furthermore, maintenance of medical competence through study, application, and enhancement of medical knowledge and skills is an obligation of practicing physicians. Any behavior that diminishes a physician's capability to practice, such as substance abuse, must be immediately addressed and rehabilitative

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professional associations, hospital peer-review committees, and state medical and licensing boards. These groups deserve the full participation and cooperation of the obstetrician–gynecologist.

3. The obstetrician–gynecologist should strive to address through the appropriate procedures the status of those physicians who demonstrate questionable competence, impairment, or unethical or illegal behavior. In addition, the obstetrician–gynecologist should cooperate with appropriate authorities to prevent the continuation of such behavior.

4. The obstetrician–gynecologist must not knowingly offer testimony that is false. The obstetrician–gynecologist must testify only on matters about which he or she has knowledge and experience. The obstetrician–gynecologist must not knowingly misrepresent his or her credentials.

5. The obstetrician–gynecologist testifying as an expert witness must have knowledge and experience about the range of the standard of care and the available scientific evidence for the condition in question during the relevant time and must respond accurately to questions about the range of the standard of care and the available scientific evidence.

6. Before offering testimony, the obstetrician–gynecologist must thoroughly review the medical facts of the case and all available relevant information.

7. The obstetrician–gynecologist serving as an expert witness must accept neither disproportionate compensation nor compensation that is contingent upon the outcome of the litigation (8).

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FORENSIC PAIN MEDICINE SECTION

Review Article

Opinions and Testimony of Expert Witnesses and Independent Medical Evaluators

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ABSTRACT

Objective. To clarify the guidelines and responsibilities of expert witnesses and independent medical evaluators (IMEs).

Design. Literature review and personal opinion.

Setting. There have been concerns about the objectivity of expert witnesses and IMEs due to potential financial conflicts of interest.

Results. Medical-legal work such as expert witness testimony and independent medical evaluations are a recognized part of the practice of medicine. As such, the opinions and testimony of expert witnesses and IMEs should be held to the same scientific and ethical standards as clinical practice. The concept of "expert" differs when used by the legal system vs when used by physicians. Expert testimony should be based on the best available evidence and standards of care, which requires that experts stay current in their field of expertise, and revise old opinions as new information is published. Personal experience alone is rarely sufficient. A medical expert should be in active practice caring for the type of patient involved in the legal action or, alternatively, be able to demonstrate competence to provide an opinion in the specific area of interest.

Conclusions. Testimony should be honest and evidence-based. Testimony and reports should be accurate, impartial, and relevant. Both should be based on current scientific evidence, and avoid the role of advocate for the party. The physician should testify as if the opinions and their bases are subject to peer review.

Key Words. Expert Testimony; Independent Medical Evaluations; Medical-Legal

The practice of medicine has expanded from clinical care and research to include medical-legal work such as expert witness testimony and independent medical evaluations [1]. The most common areas requiring expert medical-legal opinions and testimony are personal injury, medical malpractice, and workers' compensation.

In clinical practice the patient is the primary interest. Treating physicians are obliged to act first and foremost in the best interests of their patients. Their care and treatment should be based on medical evidence, honesty, and integrity. The physician who is contracted to be an independent expert witness or medical evaluator (IME) is not obligated to have the patient as primary interest.

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However, the opinions and testimony of expert witnesses and IMEs should be held to the same scientific and ethical standards [2]. There have been concerns raised about the objectivity of expert witnesses and IMEs due to potential conflicts of interest (COIs) among other issues [2–7]. This essay explores some of these concerns and offers a few practical solutions.

Conflict of Interest

A COI exists when secondary interest(s) have the potential to influence a physician's judgment, actions, or opinions regarding a person who is the subject of litigation [8–15]. It is important to note that it is the potential to influence, not that the COI will necessarily do so. To expand, a COI exists when there might be a divergence between a physician's private interests and the professional obligation to render unbiased opinion or testimony [13]. It has also been suggested that a COI exists if a reasonable observer might believe it just possible that a doctor's actions or opinions could be influenced by that secondary interest [13].

Conflicts of interest are inevitable, occur throughout medicine, and cannot be completely avoided. COIs are not inherently negative [8]. The problem is that COIs have the potential to lead to unconscious bias, which might influence opinions, decisions, or treatment [13,14]. Such bias is not purposeful, or it would be fraud. It is unconscious. Many physicians feel they can resist the influence and potential for bias of COIs by virtue of their ethics, education, intellect, and scientific training; but this proves not to be the case [8,14]. The fact that the physician is aware of the COI and its potential for bias is important, but does not necessarily mitigate its effect.

Conflicts of Interest and Medical-Legal Practice

Why would a physician choose to be an expert witness or IME? It has been suggested that medical-legal practice can provide significant noneconomic benefits such as enhancing a physician's reputation, adding variety to routine clinical practice, and allowing for greater understanding of the litigation process, while also serving the public interest [2,16]. Medical-legal work can also be interesting and challenging. Being an expert witness can provide incentive to remain current with the medical literature and to develop better communication skills. Medical-legal practice offers excellent working conditions. The hours are good. There is no patient care responsibility, no night or weekend call, and no burdensome paper work.

However, these benefits pale when compared with the income physicians can earn doing medical-legal work. The hourly and daily fees for testimony, trial preparation, reviews of records, and depositions are usually far greater than reimbursement for office-based patient care and virtually all noninterventional treatments. After considering these benefits of medical-legal practice, it is no wonder that experts want to be hired again. It is obvious that if an IME or expert witness offers too many opinions that are not in the interests of the contracting party, that physician might not be hired again.

The linkage of expert testimony with current and future financial gain is an inherent and powerful COI, which has significant potential to lead to bias [16,17]. Despite striving to be neutral, independent, and unbiased, there remains an unconscious pressure to report results in favor of the employer [18]. In this context, the doctor "knows who is paying the bill" [18]. Of course, it would be unethical for an expert to purposefully exaggerate those aspects of a case that benefit one side while minimizing those that might benefit the other party [2,18].

A monograph by the American Academy of Orthopaedic Surgeons (AAOS) discusses potential biases in medical-legal evaluations, opinions, and testimony [19]. The authors first discuss the potential for bias by the treating physician who might testify on behalf of his or her patient. They state their opinion, but offer no proof, that "the treating physician's bias is the primary reason for the IME." On the other hand, the AAOS formal published guidelines state that the orthopedist treating physician has an ethical obligation to provide testimony for his or her patient [3]. The ethics and guidelines for treating physicians who serve as expert witnesses for their patients have been discussed [2,3,20]. The treating physician-expert is bound by the same guidelines as an independent expert. Rich offered guidelines for the treating physician who testifies as an expert and recommends that physicians stay within the limits of their knowledge, training, and experience; thoroughly review the patient's medical records; review the latest literature on the subject at hand; and scrupulously maintain a position of objectivity and impartiality [20].

Grace et al. go on to state that the "second most obvious potential for bias is for an IME physician

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Medical Opinions: The Physician-Owned Independent Medical Examination Company

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Overview of the independent medical examination industry

It is common in an injury claim situation for a legitimate dispute to exist about the cause of the condition at issue or the nature and extent of the injury or disability. Reasonable minds can and do differ about these issues. The trier of fact must resolve the dispute, and independent medical examinations (IMEs) play an essential role in this process. IMEs help to determine compensability, the necessity of treatment and type of treatment, the extent of disability, and the evaluation of permanent impairment and/or loss of earning capacity.

The actual beginning of the IME industry is somewhat obscure. It was not until the postwar era, the late 1940s and 1950s, that the precursor of modern IMEs came into being. In many states IMEs were not referred to as "independent medical examinations," but rather as "insurance medical examinations" or, in workers' compensation terms, "examinations by the employer's physicians." Initially, insurance-related medical examinations were performed by individual physicians in their own clinics. Although the term "IME" had replaced other terms during the 1960s, it did not come into common usage until the birth of the IME companies.

In the late 1960s and early 1970s there was a fundamental shift in the industry with the formation of IME companies. As state workers' compensation systems evolved, and with many states changing to no-fault systems for motor vehicle accident injuries, the IME industry changed and grew. The 1970s and 1980s gave rise to an increasing intolerance for insurance fraud. Added to this intolerance was concern from another angle, that of ensuring that the claimants received appropriate medical treatment and that the insurance/legal systems did not go unchecked. In the 1990s, based on a heightened sense of professionalism, the industry came to realize the advantages to be gained by raising its own standards. IME companies sought ways to achieve a greater level of legitimacy.

One of the issues that long vexed the IME industry was the questionable relationship between the IME industry and insurers. Time and again critics ask how IME facilities can guarantee impartial examinations when the insurer is paying the bill, may be looking to minimize its exposure, and may take its business elsewhere. During the 1990s the IME industry itself seemed to recognize the ethical dilemma of trying to render medical opinions favorable only to the insurer. Whatever actual or imagined pressure IME physicians once may have felt to opine in favor of the insurer has lessened as IME companies redefined themselves. Because of this shift in philosophy, the marketability of physicians whose reports are without basis has waned tremendously.

The authors of this article works for a physician-owned IME company. Their experience has revealed that this company, owned by credible physicians with thriving clinical practices, seems to have an ethical advantage. These physicians are primarily treating physicians who view participation in the medicolegal process in keeping with medicine's greater mission of helping to relieve suffering. They serve their communities with their participation. The commercial rewards are a secondary byproduct. It is as possible to see adverse (to the insurance carriers) medical opinions as favorable ones. It all depends on the medical rationale.

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Critical factors to assess when considering start up of an independent medical examination company

By understanding his or her professional goals and then thoroughly analyzing the industry and its players, applicable laws, and the overall cost versus benefits, a physician can assess the feasibility of establishing his or her own IME company and the commitment that comes with success. Physicians interested in participating in the IME industry should determine the model that is right for their business, talents, and expertise. Even an occasional IME may round out one's practice or provide a different insight into the challenging world of health care delivery.

Opportunity costs

The potential opportunity cost associated with owning an IME company is the loss of revenue relative to the physician's clinical practice. There are only 24 hours in a day, and time from the clinical practice will need to be reallocated to the IME aspects of the business: conducting examinations, reviewing records, writing reports, offering testimony, and supervising and/or consulting the overall operation.

Regulatory environment

Several general requirements are universal, but the procedural rules governing IMEs vary among federal and state jurisdictions for tort cases as well as for cases involving statutory claims such as workers' compensation.

It is of the utmost importance to consult with an attorney to seek advice regarding the applicable state laws with regard to possible statutory provisions governing IMEs in general, statutes governing various insurance coverages (eg, workers' compensation and automobile no-fault statutes) and the parameters or limitations on performing IMEs in the state or states in which business will be conducted. When present, these statutory provisions generally provide rules regarding who can attend an IME in terms of third parties, the location of the IME, who is entitled to a copy of the IME report, the billing of the IME and other services, and the timing of an IME. All of these considerations are important, and many company policies are likely to be based on applicable state laws.

Competitor analysis

The IME industry is a service-driven industry with very little barrier to entry. Any improvement that can be made in the services currently provided in the local marketplace may provide a competitive advantage but also may be the cause of the company's demise if excellent service ultimately cannot be delivered. An analysis of the competition's strengths and weaknesses, looking for opportunities to improve on service, is well worth the effort. How can service be delivered better?

In an underserved market, business may come quite quickly as word spreads that a new service provider is in the area. In a crowded field, however, a newly formed company may need to be more aggressive with its marketing efforts. Business volume will take time to build.

A competitive advantage comes with finding a middle ground, a balance between stability and change (Box 1).

Financial needs

Operating capital is necessary to seed development and to sustain the business as it grows. People, office space, equipment, and marketing expenses are just a few of the cost centers that may require investment before revenues can be experienced.

Strategic planning

Strategy for a successful IME company has everything to do with

1. Knowing the customers: Who are they? What are their needs?
2. Putting together a panel of credible physicians
3. Informing potential clients about the panel of medical experts (Fig. 1)

Customers

Who are the customers/clients? Their organizational type and job titles can vary.

Box 1. Factors encouraging stability and change

To encourage stability
Develop home-grown management
Be clear about the core ideology
Create family-like atmosphere

To encourage change
Set goals high
Try a lot and keep what works
Good enough never is

Fig. 1. Strategic planning

Organization type
- Insurance carrier
- Third-party claims administrator
- Self-insured employer
- Government
- Legal practice

Job titles
- Adjuster
- Claims supervisor
- Claims executive
- Nurse case manager
- Attorney

Some of their needs are common; others are influenced by geographic considerations.

Common needs

There are common needs that many clients share. Clients are looking for strong physician credentials, specialization and expertise appropriate to each case, awareness of relevant laws and terminology, thorough, well-reasoned reports that enable claims and/or court decisions to be made, and a willingness to back up reports effectively with depositions and testimony, if required.

Geographic needs

Geographic needs vary from client to client, and even within one organization there may be claims personnel who handle different territories. Claims handlers, nurse case managers, or attorneys managing local claims may deal with one or only a few cities. They will know IME doctors by experience and reputation. Claims handlers managing regional claims usually deal throughout one or several states. They know some doctors by experience and reputation but use IME vendors to fill in gaps relative to referral needs. Claims handlers managing national claims deal with cases anywhere in the country. They know only a few physicians and rely heavily on IME companies to tap into reputable physician networks. As the IME company grows, expanding the physician panel to include reputable physicians around the country allows the company to meet the breadth of loyal customers' needs.

Provider panel

Recruiting a panel of medical experts will translate into a solid physician network with depth and a variety of specialties represented. This network is the foundation of a successful IME company. Certainly many injuries seen in the medicolegal context are orthopedic injuries, but experts in neurology, occupational medicine, psychiatry, pulmonology, internal medicine, and infectious disease also are frequently consulted in the medicolegal context. Also, orthopedic surgeons who subspecialize in spine surgery or hand surgery are invaluable. If a community does not provide a sufficient representation of these specialties, and specifically a sufficient number of orthopedic surgeons, nearby communities may.

The IME industry seeks physicians who are board certified and active in their practice. Because an IME is a tool often used in the court of law, a physician's curriculum vitae and reputation sometimes are questioned. Leading IME physicians are open-minded, valued for their medical expertise and knowledge, and skilled at presenting their medical opinions in a thorough and compelling manner.

Physicians who are well respected within their community and among their peers have the greatest inherent credibility in the medicolegal setting. Credentials and professional qualifications should be verified before affiliating with any physician within the network. There are many credentialing companies that provide these services for a fairly nominal fee. The time saved is well worth the cost. If the company is fortunate, the affiliated physicians will have some degree of IME experience. Many physicians, however, will not and will need to be provided with the necessary tools to be successful and to contribute to the overall success of the company. It is helpful to work with a local law firm to develop a training program or training manual for physicians that addresses the legal concepts and terminology of the applicable state laws governing the types of cases that will be encountered, as well as tips or guidelines for deposition preparation and deposition testimony. An outline of the legal process and definition of legal terms for various types of claims is helpful to provide an overview and framework of how the

system works. There also are national training programs with certifications that physicians can attain with regard to performing IMEs.

At the time of affiliation, the company will need to outline expectations clearly to each physician in terms of the services he or she provides. It is important to address issues such as the overall process from the scheduling of the appointment to billing, expected turnaround time for reports, the elements of a comprehensive IME report, client expectations with regard to report quality and accessibility, and compensation for services. If expectations are not set forth from the beginning, and bad habits are created, the company will have difficulty later.

As the IME company grows, physician recruitment will be an ongoing process driven by client needs, client recommendations, and trends in insurance claims as well as litigation.

Sales and marketing

Getting the message out to the clients about the panel of medical experts is achieved through a viable marketing plan. Leading IME companies understand the value and need for committed and continuous marketing and sales efforts and therefore employ experienced staff to acquire clients and to ensure that their needs are met. These efforts foster long-term client relationships. This department also requires the assistance of promotional tools, such as Websites, collateral material, and promotional events that are created internally or with help of outside marketing experts. Understanding and communicating how the IME company differs from others will help position it in the marketplace.

Assessing goals and objectives, the marketing mix, and budget limitations to come up with a marketing plan is key. Product, price, place, and promotion make up the marketing mix (Box 2).

Product

Medical opinions are sought when the worlds of medicine and law intersect. The opinions can be packaged in a number of different ways. This packaging is, of course, client driven and based on the client's needs. Successful IME companies offer an expansive array of ways to package the expert opinions, including, but not limited to, IMEs, second opinions, third-party evaluations, disability examinations, advice-to-pay evaluations, return-to-work evaluations, record reviews, peer reviews, and diagnostic film reviews. These presentations correlate with laws surrounding workers' compensation, automobile no-fault, automobile tort, general liability, product liability, long- and short-term disability, and the Family Medical Leave Act.

Box 2. The marketing mix

Product
- The IME product is a mix of product and service:

High-quality IME reports, thorough and well reasoned

Commitment to excellent customer service

Price
- Pricing is one component of the competitive offering.
- Understanding current pricing in the marketserved is important: what is customary varies around the country.
- The right price depends on goals, objectives, and the regulatory environment.

Place
- Single versus multiple office locations
- Travel to other cities
- Leasing space for IMEs or working with other medical providers who facilitate IMEs at their locations

Promotion
- Advertising in legal/claims publications
- IME directories
- Network participation
- Ongoing marketing/sales staff client relations
- Participation in professional organizations (American Board of Independent Medical Examiners, American Academy of Disability Evaluating Physicians)
- Speaking engagements
- Trade shows
- Interactive Website

The IME industry and its primary clients, insurance companies and legal firms, function within a time-sensitive and demanding environment in which exceptional service is expected. In fact, if a commitment to service cannot be created and maintained, entering the industry will be a fruitless endeavor. One should be prepared for

a client-driven culture in which both proactive and reactive activities are required on a daily basis. Additionally, all IME companies typically employ servicing representatives who acquire and maintain new clients through various customer-service techniques. Clients are easily persuaded to try a new vendor for their medical/legal services solely by a poor service experience. This tendency is good news for companies that offer consistently great service but is bad news for those that lack this commitment and expertise.

Looking to the competitors and potential customers in the market place to establish service guidelines for the company is helpful. What is the standard turnaround time for an IME report in the community? What are the needs and expectations of the customers? Based on this information, reasonable guidelines for delivering more than is promised are set initially. The list of customer needs is growing ever longer, and just one service-related issue could cost a company a customer for life.

Price

The accounting department will need to be familiar with industry billing practices and state-mandated billing guidelines to set pricing policies.

Place

How accessible are the physicians on the company's provider panel? Applicable state laws may place parameters (eg, a mileage radius from the home of the examinee) on the location of the IME. If the locations for examinations are not offered within a major population center, being outside the legal travel distance for most potential examinees can be a problem. The company's primary facility should be located easily and in a larger city or more populated area. Several service sites may be required for overall accessibility and convenience. Many clinics will allow outside physicians to perform IMEs at their clinic sites for a nominal fee. Any examination facility should be easy to locate and access and should provide plenty of parking.

Promotion

Visibility in the market is crucial. Brochures and other materials as well as a Website and on-line access are standard marketing tools.

Organizational design of an IME company

Active physicians in private clinical practice do not have the time necessary to devote to make an IME company a success. It is beneficial to hire someone who shares the vision and has extensive experience in the insurance industry as well as sales or marketing experience. This individual would need to be familiar with the information systems of the company and its overall operating procedures, including the various functions of each department.

Systems

Systems and process models that optimize efficiency and quality are necessary to compete in the market place.

Systems/information technology

Although simple manual systems can be used to coordinate the IME process, today's leading IME companies have established extensive scheduling and information technology systems to track and understand the dynamics of their growing business, thus serving their clients quickly and efficiently.

Many IME companies have created custom-designed computer operating systems tailored to fit their specific needs in tracking, storing, and organizing information as well as reporting capabilities. This approach certainly provides the greatest flexibility in making changes and updating the system as ways to improve upon it are learned. There is also computer software available for IME companies.

Dictation systems

Digital dictation and digital speech standard dictation are the prevalent types of dictation in the industry. Digital dictation usually requires that the physician call an 800 number and dictate over the telephone. The company may provide its own digital service or may outsource dictation, which is one way to limit overhead start-up costs. Throughout the United States there are companies that specialize in transcribing medical dictation for as little as 10 cents per line. Physicians call an 800 number and dictate their reports. The turnaround time with these services is usually 24 hours. Digital speech standard dictation uses a handheld digital recorder that stores the physician's dictation as an audio file on a small disk within the recorder. The files can be downloaded to a computer and e-mailed to the IME company. Even if physician dictation is outsourced, the company will need in-house staff to handle any other transcription needs that may arise. A medical transcription background is imperative.

Records management

The computer operating system chosen for the company can help store and organize medical records as well as provide on-line access. In a paperless system, on-line access to chart items such as the client's cover letter or background letter is especially critical to the quality assurance review process provided by the quality assurance department.

Staff and skill sets

Staffing models that optimize efficiency and quality are invaluable to a successful IME company.

Current clinical staff may not have the expertise, knowledge, or available time required to support the needs of an IME company. The company will need to assess both staff qualifications and what portion of any given work day can be committed to the new company. All aspects need to be considered, including scheduling, medical record gathering/organization, transcription, quality assurance, and billing and accounting (Fig. 2).

Scheduling

Often considered "inside sales," the scheduling department is on the front line, and first impressions are crucial. Scheduling usually is the client's first real interaction with the company. It is imperative that the schedulers understand the physician network intimately, including such details as the physicians' specialties, subspecialties, IME schedules, and locations. It also is helpful for scheduling to know clinic affiliations, report quality, and style. A scheduler who has worked previously with physicians in the context of a busy clinical setting is a good match for the fast-paced environment of the scheduling department where attention to every detail matters. Because of the service-driven nature of the industry, staff should be added to this department proactively in anticipation of growth rather than in hindsight. If the scheduling department cannot keep up with the incoming calls, clients who get a busy signal or who have been kept on hold will hang up and call a competitor. Also, some clients demand more time from a scheduler than other clients do, and adequate staffing allows the department to address the needs of all clients, ultimately resulting in better customer service overall.

The scheduling department staff must be skilled at identifying the physician who best matches the client's needs. The scheduling staff is responsible for confirming all aspects of the physician's time, including initially establishing the physician's availability, scheduling of IME appointments, rescheduling, providing written confirmations to clients and examinees, and noting cancellations as they occur.

Medical records

This department tracks receipt of and prepares all medical records and diagnostics for delivery to the physician before the scheduled IME. Specific chart preparation is designated by the physician

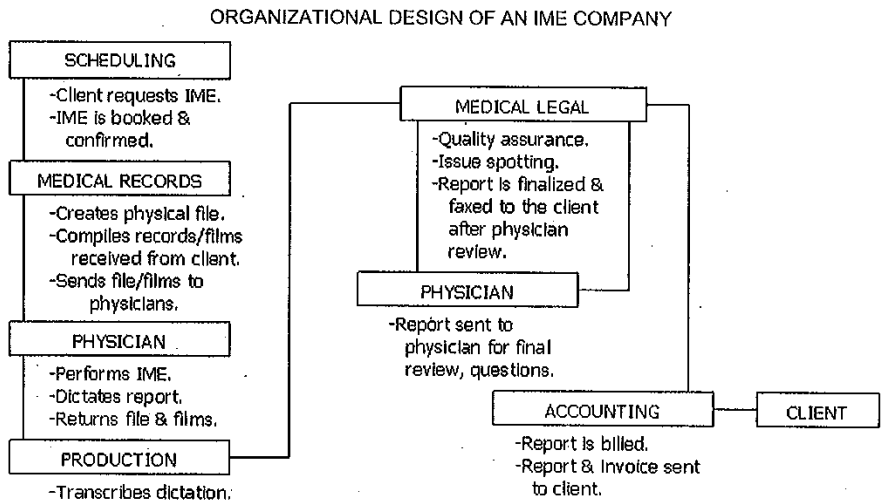

Fig. 2. Organizational design of an IME company

and may include tabbing operative and diagnostic reports or organizing records in chronologic order by provider or facility. A medical records background for potential staff is useful but not critical.

Clients usually are responsible for obtaining the medical records and other documentation. Clients are encouraged to provide medical records at least 1 week before the evaluation is scheduled. Organization of the records is also encouraged. Whenever an IME is scheduled, the medical records department will coordinate all medical record information relevant to the services requested. Once received from the client, records are forwarded to the correct physician in a timely manner, before the scheduled service date.

Medical records management as a service to the physicians is key, because the medical record documentation is the investigative "paper trail." An analysis of the records will help determine the validity of the claimant's injuries.

Transcription

Regardless of dictation preferences, (ie, voice recorder, written notes, electronic files), a physician-owned IME company will need trained medical transcriptionists who transcribe dictation or reformat written material and who track deadline dates to ensure timely completion and delivery to the client.

Quality assurance

Quality assurance departments were nonexistent in the IME industry before the 1980s. Now, based on a heightened sense of professionalism and the industry's realization of the advantages to be gained by raising its own standards, these departments have become a prominent feature of the larger IME companies. Nurse case consultants were the first to staff these quality assurance departments. They worked with the physicians on the technical/legal aspects of their reports, thereby pushing the physicians to produce thorough and well-reasoned reports.

The quality assurance staff is responsible for reviewing the rough-draft IME reports generated by physicians in a medicolegal context. The goals of this review process are to ensure a grammatically correct report that is formatted in a user-friendly way. The staff in this department can assist physicians in issuing thorough reports with sound reasoning that respond to the client's specific interrogatories.

Challenging legal concepts and issues are part of the IME arena and include

- Absence of relevant records
- Apportionment
- Causality
- Impairment ratings
- Identifying symptom magnification and malingering
- Maintaining independence
- State laws and terminology

Several general principles are universal, but the rules governing IMEs vary among federal and state jurisdictions for tort cases as well as for cases involving statutory claims such as workers' compensation. The volume of claims is heavy. It is essential to be concise but to provide adequate foundation for opinions. For example, many workers' compensation hearings are a mere 15 minutes long.

Staff in this department can assist IME physicians in

- Streamlining reports
- Meeting the medicolegal challenges
- Meeting the legal standard in a work comp, auto or liability case
- Eliminating inconsistency

To staff this department, the best-qualified individuals have a medical, legal, or insurance claims background. A well-rounded team would consist of an attorney, a nurse, and a claims adjuster, encompassing all three areas of expertise.

Accounting and finance

The company will need individuals familiar with industry billing practices and state-mandated billing guidelines to handle physician payroll and set pricing policies. This department also is responsible for budget planning and other finance related tasks.

Summary

IMEs are of significant use in the medicolegal arena. The multiple perspectives at play in an injury claim case contribute to a fair outcome. States have created successful insurance systems, and independent medical physicians play one of the many necessary roles. Should physicians enter the IME industry? Certainly they have the medical expertise and credentials to do so. The answer depends most heavily on the physician's ability to understand and adjust the attitudes and methods of his or her own clinical practice as those would mesh with the overall operation of an IME company.

CLINICS IN SPORTS MEDICINE

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Setting up an in-office independent medical examination company

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For private orthopedic surgical practices, declining reimbursement for orthopedic services presents a unique and immediate challenge of how to maintain financial viability without compromising the quality of patient care and service.

Tri Rivers Surgical Associates, Inc (TRSA) is an orthopedic group in Pittsburgh, Pennsylvania. TRSA was compelled to develop a business strategy in 1992 that would position them to continue to serve patients appropriately and remain independent and financially sound in the changing marketplace. This strategy included adding new physicians (because of an unexpected loss of a busy physician), expansion to additional geographic markets surrounding Pittsburgh, adopting a customer service philosophy that would make Tri Rivers Surgical a provider of choice, and developing related businesses that could generate revenue. This additional revenue would be used to offset expected declines in reimbursement for orthopedic services.

TRSA had always treated patients with work-related injuries and had been called upon on occasion to provide medical opinions when the circumstances surrounding an injury resulted in litigation. In evaluating new business opportunities, TRSA recognized that by expanding its medical/legal activities, the practice could meet an existing market need while generating additional revenue to subsidize patient care.

After evaluating the market and defining its strategy for building this new business, the practice formed Tri Rivers Consulting Services (TRCS) in 1996 as a subsidiary of TRSA. The physicians provided independent medical evaluations (IMEs), medical record reviews, and similar types of services for the medical/legal community. Since 1996, TRCS has grown to include 21 physicians in 10 specialties and now is one of the largest organizations in the city providing these types of services.

For the orthopedic practice considering creating an IME company in-office, the key questions that the principals must ask themselves are the same questions

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that must be asked before the launch of any new enterprise. What is the market for this service, and who are its potential customers? How does this venture fit into an overall organizational strategy? What resources are required to support the new business? Who are the competitors, and how can this group and services be differentiated from others? What is the "vision" for this new service? What is needed to manage and expand the business long-term? This may seem like a standard business school approach, but diversification can carry significant risk, especially for the smaller practice. There is no substitute for thorough research, clear vision-setting, and careful strategic planning.

The decision to perform IMEs and other medical/legal services and to formalize the delivery of these services by creating a separate corporate entity will likely be followed by a considerable investment of money, planning, and time. A market analysis for these services and an evaluation of the state statutes that apply are necessary. An infrastructure is needed to support the various administrative functions associated with the medical/legal review process. The physician-reviewer needs to learn procedural and linguistic nuances of the legal system as it pertains to workers' compensation and personal injury. The new service needs to be introduced to the market and the entire system managed day-to-day, with constant attention paid to issues of responsiveness, timeliness, and customer service.

Many factors affect the design and delivery of the medical/legal service. For example, state law typically governs the legal process of which IMEs and other medical/legal services are a part. Regional issues, such as pricing and competition, are significant factors in the product design. For these reasons, there is no single "right" way to create an in-office IME or other medical/legal service. Because each practice has its own vision and goals, and because each market for medical/legal services is different, the approach to establishing an in-office IME company must be highly individualized. There are general rules that can guide a practice through decision-making, development, administrative, and marketing processes. These rules begin with an understanding of the purpose that IMEs and related medical/legal products, such as record reviews and impairment rating evaluations (IREs), serve in the legal arena.

What are medical/legal services?

Consider the following scenarios: A construction laborer remains off of work because of low back pain that he experienced on the job several months earlier. The passenger of an automobile files suit against an insurance company seeking monetary compensation for injuries sustained in an accident. An individual believes that her chronic musculoskeletal symptoms resulted from falling on the wet floor of a shopping center, so she now seeks reimbursement from the retailer's insurance company for the cost of her medical care. It is in situations like these where law and medicine intersect, hence the term medical/legal consultation.

The outcome of litigation in these cases may rest in large part on the professional opinions of a medical practitioner who is not the patient's treating

physician but who has been asked to provide an independent assessment of the medical facts of the case. The request for an assessment may come from either party involved in the litigation or from an overseeing entity, such as a state bureau of worker's compensation or the Department of Labor.

There are two legal philosophies involved in each of these cases. The law provides a way for individuals who have sustained legitimate work-related or personal injuries to receive appropriate compensation for medical bills, lost wages, and pain and suffering that results from the injury. Furthermore, each party has the right to present its case regarding the legitimacy of the claim.

This is where the physician-reviewer's opinion is pivotal. Orthopedic surgeons, neurosurgeons, physiatrists, and many other specialists are often called upon by attainees and insurance claim adjusters to make determinations about the cause of certain conditions or symptoms; to identify objective clinical manifestations and ascertain whether these findings are related to specific events, such as work activities or an accident; and to comment on the likely future course of the disease process. This also is where certain stigmas arise for many physicians, and a discussion about this subject would be incomplete without addressing the negative perceptions that often exist regarding the quality, objectivity, and motivations of colleagues who provide medical/legal services.

In the extreme case, the stereotypical physician-reviewer is often perceived to be somewhat of an opportunist who is nearing the end of his or her medical career, is motivated by personal financial gain, and is willing to provide "bought" opinions (ie, opinions based less on clinical facts and more on the desire to help the party that is paying the physician's fee achieve a certain legal outcome).

It is inaccurate to say that this stereotype is not rooted in some degree of reality; the financial rewards for saying what the insurance company wants to hear have historically been substantial. This practice, however, seems to be less effective—and, therefore, less pervasive—than it used to be. So-called "bought" opinions are becoming more transparent to the judges and juries who often decide worker's compensation and personal injury cases. Hence, the motivation for seeking a predetermined opinion (ie, the desire to persuade the judge or jury to rule in one's favor) becomes less compelling as the decision-makers reject biased testimony.

This means that the demand for credibility is growing and that many within the legal and insurance communities recognize that the most persuasive arguments are those that are also the most balanced and believable. For the orthopedic private practice that wants to seek an additional source of revenue without compromising its integrity, providing medical/legal consultation services may be an option.

The rendering of a medical opinion on legal cases is typically carried out in one of the following three ways:

- Through an IME. This involves an in-depth review of the patient's mechanism of injury, medical records, treatment history, and test results; an interview with and physical examination of the patient; or the collection of objective data through imaging studies, such as radiographs. From the

results of the evaluation, the reviewing physician offers a professional opinion regarding the case. These questions commonly involve causation, whether the injuries are related to the accident, the effect of pre-existing conditions on the patient's current status, or the patient's ability to return to work or other daily activities. At some point following the IME, the physician may also be called upon to provide legal testimony—called a deposition—on his or her findings. The information presented during the deposition is derived from the information that the physician gathers during the IME; however, the deposition itself is considered a separate service. Not all IMEs result in the need for a deposition.

- Through record reviews. The purpose of a record review is often to address a specific aspect of a case (eg, relating the symptoms to the mechanism of injury in either a workman's compensation or personal injury case).
- Through an IRE. The reviewing physician is asked to rate the individual's level of impairment from objective data outlined in the American Medical Association's (AMA) "Guides to the Evaluation of Permanent Impairment" or a particular state's disability schedules. These guides provide a standardized method for quantifying the degree of physical impairment associated with particular medical conditions. To perform an IRE, the physician is required to review the patient's medical records, obtain a medical history as it pertains to the condition in question, conduct a physical examination, quantify the level of whole body impairment based on percentages specified in the AMA Guides, and summarize his or her findings in a written report. These examinations are used usually in accordance with a state's laws as to how impairment is determined.

Medical/legal consultation services may encompass all four types of services (including depositions) and, in some regions, a larger scope of similar services. This chapter focuses on developing an in-office IME company, which is comprised of many more services than just the basic IME. For simplification purposes, we use IME as a generic term for all aspects of the services that may be rendered. Record reviews and IREs, along with IMEs, serve important functions in managing and resolving legal cases that involve bodily injury. Specifically, they are intended to provide the opportunity to obtain an independent and ideally impartial opinion on the cause, relationship to, or permanence of the injury. This opinion can carry considerable weight in determining the outcome of a case.

Medical/legal consultation services in general and IMEs in particular are often central to the fair and appropriate resolution of worker's compensation and personal injury cases and remain a significant component in the established legal process for resolving claims. These activities are separate and distinct from the traditional clinical model of patient care. The reviewing physician does not engage in the active *treatment* of the patient whose condition he is evaluating; therefore, the encounter between the patient and the reviewing physician is generally not considered therapeutic. Rather, its purpose is to provide ob-

jective information that can assist with the judicious and equitable disposition of legal claims.

Similarly, payment for IMEs and other medical/legal consultation services falls outside the realm of traditional third-party reimbursement. Physicians typically receive compensation for medical/legal services from the parties involved in the litigation, so fees may not be subject to the kind of external controls (eg, managed care of government caps) that affect reimbursement for clinical services; however, reimbursement for these services can vary from state to state and region to region and may be based on who typically provides these services within a market. This variability must be a consideration in the decision to establish an in-office medical/legal consultation company because the ultimate revenue potential is linked directly to these fees.

At a time when it is increasingly difficult to maintain sufficient revenues to cover the costs of delivering clinical care, the private medical practice may find that providing IMEs and other medical/legal services presents a timely and logical opportunity to generate additional revenue, which can then be directed toward supporting the practice's primary clinical activities as needed. As with any new business enterprise, the decision to create an in-house medical/legal consultation service should be made thoughtfully and realistically, with a careful analysis of the direct/indirect costs versus expected benefits as part of the private practice's overall business strategy.

Strategic planning: does developing an in-office medical/legal service company make sense?

Continuing reductions in third-party reimbursement for patient care services offers several compelling reasons for the private medical practice to diversify. Increasing competition for patients, the uncertain future of health care, and the desire on the part of some physicians to reduce their clinical activities but still generate revenue for the practice are good reasons to consider this additional income service.

Whether diversification into IMEs or other related medical/legal services makes sense for a specific practice depends on a number of factors. These most likely relate to the following key areas, which are summarized here and explored in detail in the next section.

Goals and expectations

The private group practice must have some idea of what it hopes to accomplish by providing medical/legal consultation services. Specifically, the practice must determine whether it is trying to build significant volume that can generate substantial revenue or creating a smaller business that can supplement current cash flow. That is, does the practice strive to create a business that can have marketplace sustainability and solid growth, or is it seeking to perform a few examinations per month?

Once the practice identifies its strategic goals for the new venture, it can begin a methodic approach toward researching the entry requirements. It needs to evaluate the financial and human resources necessary to launch and sustain the new enterprise and assess the marketplace. This involves identifying potential customers and likely competitors and external factors, such as pending legislative changes that may affect the delivery and reimbursement of medical/legal consultation services.

State laws and requirements for reviewing physicians

The legal process for resolving worker's compensation cases and personal injury cases is defined by individual states. State laws may outline the minimum requirements that physician-reviewers are required to meet. In some states, for instance, physician-reviewers are required not only to meet certain certification requirements before they can perform IMEs but also to maintain an active clinical practice. Such nuances, which can differ greatly among states, are relevant for the practice that hopes to offer specific medical/legal products and should be understood thoroughly in the early stages of planning.

There is also a considerable learning curve associated with providing medical/legal consultation services. Initially, the physician-reviewer needs to become familiar with legal terminology and how it applies to specific situations so the physician-reviewer can apply the language precisely.

The physician-reviewer needs to understand the process for resolving claims in his or her state and needs to be prepared to meet any paperwork and documentation requirements and to provide legal testimony on clinical findings and impressions as requested.

Financial analysis

The ability to generate revenue for specific medical/legal services varies depending upon several factors. These include the services offered, the pricing structure that exists within a defined market, the competitive landscape, the demand for a specific medical/legal service, the timing of entry into the marketplace (ie, is the practice ahead of the curve or a late entrant?), and success in differentiating one's product from the products offered by other providers through customer service, quality, price, or some other combination of factors. Likewise, the practice needs to estimate the costs associated with developing and launching the new service and maintaining the administrative infrastructure needed to support the product on an ongoing basis. These costs may be direct and indirect, involving a cash outlay to hire staff, print letterhead, or carry out other operational functions. An example of an indirect cost is use of the practice's resources and equipment (eg, the fax machine, copier, and telephone receptionist's time) to support the medical/legal business.

There is also an opportunity cost associated with starting a consultation service. This encompasses the potential loss of revenue on the clinical side

because a specific amount of physician time needs to be reallocated to reviewing records, conducting evaluations, reporting findings and impressions, or offering testimony.

Developing a medical/legal consultation service can be an ideal way to maximize productivity for the practice whose physicians have available office time. Conversely, for the practice whose physicians are carrying a full patient load, office hours may need to be pared back, and difficult decisions may need to be made about the degree to which the practice is willing to sacrifice office hours to engage in nonclinical work. An option for some practices may be to add physician assistants to the practice to help sustain patient volume while dedicating physician time to the medical/legal activities.

The need to balance can be an emotional choice for physicians, who may prefer not to reduce their direct patient care activities but who also may recognize that, in an environment of declining reimbursement, the ongoing financial health of the practice may depend on generating revenue by alternate means.

The private practice will want to consider all of the above factors when considering whether developing an in-office IME company make sense. If the practice decides to move forward after its initial evaluation, its leaders may want to engage in a thorough, methodic assessment. The practice should, to evaluate its risk, learn about the market, define the parameters of its product and differentiate its product in some meaningful way, identify potential customers and likely competitors, develop an administrative infrastructure, and market and provide the service.

Establishing an in-office IME company: a suggested business plan

The standard business planning process provides an excellent decision-making and task-identification framework for the practice interested in developing an IME company and for focusing on the issues outlined in the previous section.

Whereas the business plan does not have to be contained in a formalized document with goals, objectives, and tactics, the orthopedic private practice may want to record its key concepts and strategic direction; this compels the practice manager or physicians to articulate succinctly and clearly what they hope to accomplish by diversifying into the IME business and how they hope to accomplish it; it helps the practice set consistent expectations about the new product throughout the organization; and it serves as a reference for future decision-making. A written business plan can be a useful tool in guiding the practice methodically through the analysis, product development, market positioning, and product implementation.

It is important that every organization undergo decision-making, risk assessment, and business planning. There is no single correct way to approach this task, but there are several common areas that any private practice may need to explore during the course of starting and growing a medical/legal consultation business.

A technique for formulating a business plan

Step one: clarification of purpose

The orthopedic practice should understand what it hopes to accomplish by creating an in-office IME company. Is the goal to conduct a few evaluations per month to generate a small amount of revenue? If so, it may be possible to provide an IME service without investing much physician time or practice capital. The organization's leaders will need to allocate resources on a per-event basis and may find that identifying potential sources of business to sustain a small-volume service is fairly easy.

If the goal is to build an ongoing, higher-volume growth business, then the investment of time, management effort, and capital outlay will change proportionately. The practice may need to conduct more extensive research and pay more attention to product differentiation, make available more capital and physician time, create an administrative infrastructure to support the new service, market the product to a larger potential customer base, and be prepared to manage the business on a day-to-day basis.

To minimize unnecessary cost and effort and to maximize its revenue-generation potential, the practice should determine its goals for the new service. The final goal is determined following a more comprehensive analysis of the market and cost versus benefits, but the practice benefits from entering the process with a clear sense of what it hopes to accomplish through diversification.

Step two: service, industry, and market analysis

What is involved in providing an IME service? Does the physician-reviewer need to meet certain requirements, such as possessing board certification in a recognized specialty or maintaining a clinical practice, before he or she can perform IMEs? How, when, and to whom are the results of IMEs reported, and what should be included in those reports? Who is likely to use the service, what are the potential customers' needs, and what kind of fees is the market willing to pay? Is the practice a new or late entrant into the market? If it is a late entrant, who are the other providers, and how are their services differentia?

A thorough exploration of these issues needs to be conducted before the practice can define and market its IME services.

Sources of information about the service, industry, and market

Attorneys, case managers, and insurance adjusters

These professionals may be the most valuable source of insight for the practice interested in establishing a medical/legal consultation business. Personal contact with these individuals can provide valuable insight into the nuances of the medical/legal field and allow the practice to start building relationships with potential referral sources.

The physicians can begin by identifying workers' compensation and personal injury attorneys (both plaintiff and defense) and inviting them to lunch or dinner. The physicians should do the same thing with case managers and adjusters. The key to gaining the most from these encounters is to ask questions and listen, with the goal of absorbing as much information and picking up on as many subtleties as possible.

During these encounters, questions that can elicit the most enlightening feedback may include the following:

1. Who are their customers, and what are their clients' needs?
2. What do or don't they like about the current IME services that are provided in the market? What does or doesn't work for them, their organizations, and their clients?
3. What makes their day-to-day work easier or more difficult? How do they prefer to interact with physician-reviewers?
4. If they had the opportunity to design an IME service, what features would they include?
5. What is the individual's overall opinion of the market? Is it over or under served? What voids exist? Is there an unmet market demand for better customer service, more thoughtful and balanced reports, credible testimony, or some other dimension? What may be a possible area for differentiation?
6. What are the problems that win or lose cases? Where are decisions about cases made and by whom?
7. Who are the other IME providers in the market? How good is their service? What makes their reports "good" or "bad"?
8. Will the attorney, case manager, or adjuster be willing to provide copies of reports by other physician-reviewers, with appropriate care taken to protect the confidentiality of both the patient and the reviewer? Can they offer an instructive feedback on those reports on the basis of content, quality, and clarity of opinion?
9. How do fee structures vary among the different providers?
10. Is there any legislation pending that may change the nature of the medical/legal consultation industry? Are there other transformations taking place within the field that may either open new markets or close existing ones?

The practice will probably receive a variety of responses to these questions, and much of the feedback may seem to be conflicting. If so, it may be prudent to follow-up with the attorney, case manager, or adjuster for clarification on confusing issues. The purpose of these meetings is to gain insight into the medical/legal consultation industry, so the practice cannot expect a diversity of individuals to convey a single perspective. Rather, the practice should gather a range of different insights and assimilate all the information into a broader understanding of trends and common themes.

Colleagues and professional organizations

The practice may want to contact other practices—if not locally, then in other parts of the state or country—that have experience in building and managing an in-office IME company. These practices can be identified through contacts in the medical/legal community (attorneys, case managers, and adjusters) or informally through networking at medical society and other types of professional meetings. Practices with an established IME business may be able to offer advice on creating and marketing the medical/legal product, developing an administrative infrastructure, setting fee schedules, and avoiding common mistakes in both conducting reviews and managing the business on an ongoing basis.

State government

The Department of Labor or Bureau of Worker's Compensation may be able to provide detailed information on the IME process in worker's compensation cases and specific qualifications that physicians may need to meet to conduct reviews in that state. The state attorney general's office may be able to provide information on the process of resolving other types of personal injury claims and current information on case law. These or other state agencies also may be able to provide aggregate data on types and occurrence rates of injuries and may be able to offer guidelines on setting fee schedules.

The goal of this information gathering is to understand the industry, identify the key players, assess the market and look for unmet demand, and prepare the physician-reviewer and practice to enter the IME business with a thorough grasp of the field. As a result of this research, the group practice should be able to determine what services are likely to be well received and whether it is an early or late entrant into the market. This point is particularly relevant.

Early entry into the marketplace allows the practice to take a minimal approach that requires a low cost outlay, a strategy of gradual solid growth, and not much competition to contend with. An example of an early entry marketplace for an IME business is one in which most of the providers are either retired physicians who have ceased to practice or retiring physicians who have minimal clinic volumes. Their objective is to supplement their retirement incomes. In this marketplace, an orthopedic surgeon with a busy practice can easily differentiate his or her services from the competition and begin to build a substantial IME business.

In contrast, markets in which the majority of IME providers are practicing physicians who have loyal followings because of an excellent product (which is generally defined as an honest, thoughtful, and well-conceived opinion that is articulated clearly and succinctly in a written report) can be much more difficult to enter. For the new physician, establishing an IME practice is expensive, time-consuming, and challenging to maintain. This is not to say that a practice cannot launch a profitable IME business in a crowded marketplace. The barriers to enter the market are higher, the costs are more substantial, and the ongoing effort will be greater.

Step three: product development/differentiation strategy and creation of infrastructure

The practice must define and differentiate its product on the basis of specific features. For example, if the practice is an early entrant into the marketplace, its strategy may be to service one area extremely well or to be a full-service location for all the clients' needs. If the practice is a late entrant, it may choose a strategy that fills a geographic void or competes on the basis of other characteristics, such as quality, turnaround time, or excellent communication. In either case, the practice should ensure that the benefits of its product are relevant to the customer, can be clearly and succinctly articulated, and can be delivered consistently without being easy to duplicate.

Before launching its product, the practice will also need to identify its service philosophy and pricing strategy. The service philosophy should help to define availability and responsiveness to requests. For example, the practice may choose to make its physician-reviewers available to whatever their clients may need in terms of the number of IME appointments available and access to the physician. Likewise, it may choose to limit the times in which the physicians can perform evaluations, provide testimony, or answer phone calls from attorneys or case managers.

Regardless of the specifics of the service philosophy, the practice must communicate and apply the philosophy consistently. The practice's staff should be familiar with the service goals, and the physician-reviewer should be consistent when providing a service to its customers. The physician-reviewer who has committed to a liberal policy of availability must be careful when conveying to the staff that he or she may be too overbooked to accommodate the client's request.

Behavior that is inconsistent with a stated philosophy can lead the staff to believe that they are protecting the physician by blocking client access. The client may become frustrated with the IME provider and look elsewhere for its IME services.

The practice needs to consider its pricing strategy carefully. Market research can offer a guide to developing a competitive fee schedule. Although price may seem like a natural and logical way to differentiate one's services, caution should be exercised. Any time competition takes place on the basis of price, the potential of creating a commodity market exists. Once that occurs, prices overall tend to spiral downward, and other product dimensions, such as service and quality, become much less influential in determining customer preference. The entire population of providers then suffers.

Late entrants may find that entering a mature market without a clear differentiation strategy is more challenging. To capture market share from existing suppliers, the practice needs to present a compelling reason why customers should switch. If it is not possible to differentiate on the basis of product attributes (physician-reviewer availability, physician reputation, timeliness of reports), the practice may need to consider competing on price. At that point, it may be advisable to consider whether to enter that market at all. A

market driven by price competition leads to commoditization, and price-cutting may continue until other suppliers begin to exit the market because of an inability to meet financial goals.

Once the decision to proceed is made and the product line and pricing are determined, the practice should ensure that it has an adequate infrastructure to build the business and support client needs. This means having a properly trained staff in place and allocating resources, such as information technology, to support the new enterprise. The key is to maintain staffing and technology at a level that is just ahead of what is immediately needed so that growth can be accommodated. Likewise, the importance of information technology cannot be understated. Quality data (data that help the practice track activity by referral source) is valuable in the ongoing management of the new venture. It is also critical as the practice seeks to expand its volume. With a detailed, accurate, and highly functional database, the practice can observe trends by geography, time of year, and service; track customer behavior; and identify areas where it may be gaining or losing business. With this information, the practice can react appropriately to changes in volumes and identify new strategies on the basis of accurate knowledge of past activity.

Having the staffing and technology infrastructures in place can be an effective tool when launching the new venture. For instance, something as simple as having a dedicated staff answer the phone with the new company's name may be enough to make sure that the client is put in touch with the right person and that the client perceives the entity to be very organized, efficient, and customer focused.

Attorneys, case managers, and other potential referral sources form lasting opinions of the new service based on early impressions, so the practice should take great care to ensure that it conveys a sense of responsiveness and professionalism from the outset.

Step four: cost-versus-benefit analysis

With an understanding of the market, price options, and resources needed to launch and sustain an in-office IME company, the practice can conduct an accurate cost-versus-benefit analysis, which includes an evaluation of the new product's financial risk versus potential in the strict accounting sense of "net income equals revenue minus expenses" but also in the larger sense of what it will cost the organization.

Physician time is the most important and most costly investment. This is especially true in the research and early development stages. The marketplace research consumes large amounts of the physician's and business manager's time. As the practice completes the research and planning phase and prepares to launch its product, the time requirements need to be determined.

If the practice seeks to build an ongoing, higher-volume business, staff time is needed to create consistency in service delivery and to begin to network with clients at the administrative assistant level. In short, resources need to be committed to increasing volumes and attracting and serving new customers.

The impact of the new enterprise on the rest of the practice must also be evaluated. Clearly, the practice's core business is orthopedics, and this needs to be kept in mind throughout all phases of product development and ongoing management.

It is necessary to evaluate how the IME service affects the rest of the practice. For example, worker's compensation may be the leading source of IME referrals in some regions. If the region has only one or two major employers, a practice may erode its worker's compensation base by entering the IME business. The reason for this is that the IME is intended to be an independent evaluation. Specifically, it is designed to be independent from the opinion of the treating physician, so a practice that treats an injured worker cannot also perform the IME. Thus, an orthopedic practice located in an area with just a few major employers, which has nurtured a base of workers compensation patient referrals, may find that, by also offering IME services, it is unintentionally trading one source of business for another rather than generating new sources of revenue.

A careful analysis of all possible unintended consequences and a clear understanding of the associated risks decreases the possibility of incurring undesirable and unanticipated outcomes, such as inadvertently forfeiting one type of business for another.

Step five: product launch and marketing

The services are defined, the fee schedule is set, the service philosophy and differentiation strategies are clear, and the infrastructure is in place. The next step is to launch the product in the marketplace. The practice may find that marketing its services presents the most difficult challenge.

Advertising is discouraged because independence, honesty, and integrity are the keys to maintaining a credible IME service. The practice may need to rely on communication strategies rather than on traditional advertising to build awareness and attract business. Simple, straightforward announcements about service availability generally work well, as do personal contacts with case managers, attorneys, and adjusters. Truly differentiating and meeting currently unmet needs in the marketplace sells itself. Once a few sources of business find the physician or practice to meet their unmet needs, the business will begin to grow. The challenge is in continuously improving the services because the competition will either sprout up or catch on to what needs to be done to regain market share. If the practice already serves the worker's compensation community, it may inform its existing insurance contacts of the availability of independent review services. The group must be careful not to reduce worker's compensation referrals in the process. The practice may also want to network and disseminate information informally. The contacts it established in the legal community during the research and product development phases would be a logical place to start this communication process.

In an underserved marketplace, practice volumes may build rapidly as news about a group's entry into marketplace spreads quickly among attorneys, case managers, and other referral sources. Late entrants in an established market may

find that they need to be more aggressive in making contacts and that the referrals may come at a slower pace.

In all cases, any communication about the new service should articulate clearly and prominently the features (quality, customer service, etc) that differentiate the practice's product from competing products. The practice should be prepared from the outset to consistently meet the expectations it has set. Potential referral sources are likely to be unforgiving of what they perceive to be inconsistencies between what is promised and what is delivered.

Step six: ongoing management and growth

Managing an in-office IME company is not unlike managing other businesses. It requires careful attention to quality, customer service, internal processes and staffing issues, financial performance, and market shifts. The complexity of the management challenge is proportional to the size of the business venture.

For the small-volume provider, the day-to-day management requirements may be minimal. The practice that seeks to build a larger volume of business must be prepared to commit more management resources to the effort.

In either case, managing in-office IME service includes supervising the staff, monitoring processes to ensure the quality and timeliness of reports, responding promptly and appropriately to customer needs, financial analysis and decision-making, troubleshooting, formulating appropriate responses to market changes, allocating resources, and maintaining a desired balance between the medical/legal consultation service and the core business.

Another ongoing requirement of management is to seek out new referral sources. Stagnation (the absence of growth) can be one of the most detrimental forces on any business venture. The medical/legal field is no exception. It is a dynamic industry, so the practice that hopes to diversify into this field and meet its revenue targets long-term needs to constantly cultivate new clients. One of the most effective ways to accomplish this objective is to provide excellent service consistently. Case managers, attorneys, and adjusters will then usually recommend the practice to their colleagues. Physician-reviewers will also want to engage in a process of continuous learning, whereby he or she takes advantage of the personal contact with attorneys, case managers, and others to learn about their needs in particular and the medical/legal field in general.

Through this approach, the physician-reviewers will convey to clients a genuine sense of interest and will be able to identify unmet market demands early. This helps the practice to further differentiate its services or add new dimensions to its product and to build a reputation for quality and responsiveness. This reputation will be the major factor in the IME company's long-term growth.

Summary

In a time of declining reimbursement for patient care services, establishing an in-office IME company enables orthopedic practices to generate additional

revenue to subsidize clinical activities without compromising the credibility and integrity of their physicians; however, the decision to enter the medical/legal consultation business should be considered carefully. A thorough analysis of the industry, applicable laws, costs-versus-benefits, and the local marketplace is critical in helping the practice to evaluate the feasibility of establishing the new business and develop a product that is well differentiated.

The practice should approach the day-to-day management of the IME company with the same careful attention that it pays to the management of its orthopedic service. This includes creating a staffing and information technology infrastructure that supports the new business and allows for its growth. An attitude of continuous learning whereby the physician-reviewer seeks out information about the customer's needs and market shifts enables the practice to respond swiftly to these needs and shifts and further position itself as an innovative provider of medical/legal services.

Other sources of information

American Association of Orthopaedic Surgeons. AAOS, 6300 North River Road Rosemont, IL 60018-4262. Phone: (847) 823-7186 or (800) 346-AAOS; fax: (847) 823-8125 AAOS; fax-on-demand 800/999-2939. www.aaos.org.

American Board of Independent Medical Examiners, 111 Lions Drive, Suite 217, Barrington, IL 60010. Phone: (800) 234-3490 or (847) 277-7902; fax: (847) 277-7912. www.abime.org.

DISABILITY EVALUATION 1047–9651/01 $15.00 + .00

EVALUATION AND REPORTING REQUIREMENTS OF THE DISABILITY EXAMINER

Steve R. Geiringer, MD

This article details the elements of the disability evaluation report. The prototype for this will be evaluation of a person with work-related musculoskeletal system complaints.[5] Although the actual content of the history and physical examination will differ for other categories of impairment, e.g., for traumatic brain injury, the principles outlined here will still pertain.

REASONS FOR THE REPORT

Documentation

The disability evaluation report is typically the only comprehensive source of documentation that details what occurred in the clinic room the day of the examination. Offices that use client-prepared questionnaires or forms should incorporate those into the medical record as well. The dictated report, though, puts forth for all to later read (and critique) exactly what you asked, performed on examination, and concluded about your evaluation. Naturally, this record should be legible, organized, generated on a word processor, and completed by the time of your signature. Thereafter, an outside observer can conclude that whatever appears in the report is all that occurred; that is, that all pertinent elements of the history, physical examination, and opinions are included.

Medicolegal Considerations

Although the disability evaluation report is not automatically a legal document, it is available to both sides in case of legal action. As soon as a report is

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introduced as an exhibit as part of a deposition (or, less likely, as part of a court appearance), your dictation indeed becomes a legal document for all to access. Your reputation as a disability evaluator and as a recorder of events will be largely reflected in the quality and credibility of your report. If at all possible given the daily clinic schedule, it is advantageous to dictate each report directly after each disability examination. Your memory for details might be called into question at deposition months or years hence if the dictation was done hours later. In no case should dictation be delayed until the following day or beyond. During many depositions, you will be asked if you have direct recall of the examinee, or if you are relying on your dictated report. Not only is there no shame in acknowledging your use of the report, many will be rightfully skeptical if you claim good recall of someone you examined many months, not to mention years, ago.

If the examinee, a medical assistant, or you have made any handwritten notes (e.g., an information form the claimant completes, or your notes made during interview), they must be retained as part of the record. Such notes should not be discarded because an attorney could later paint hypothetic, accusatory scenarios explaining why you did not keep such notes. An exception would be a simple list of medications, or the like.

Memory Aid

It is of course impossible to recall for a substantial length of time any more than cursory details about most examinees. Many "if-then" scenarios can be outlined in enough detail in the first report, so that you are not forced to second guess yourself at the time of re-evaluation. In the world of disability evaluation, a final or follow-up opinion is often required after:

- Test results are obtained. Recent testing may have been completed before your Independent Medical Evaluation (IME), and the results are not immediately available. Or, you may have ordered or performed testing yourself to complete the evaluation.
- Recommended treatment. You may have concluded that a certain type or duration of treatment was indicated. Once that treatment has been completed, re-evaluation may be requested.
- Return to work. An evaluation is sometimes performed when the claimant is feeling well, simply because they have been off work for an extended period. You may thus allow their return to work, but with the caveat of a repeat clinical examination a week or so later, to assess if any impairment has recurred.
- A change in the condition. The impairment present might worsen or improve on its own, at which time your initial IME recommendations should be revised.

In any of these circumstances, the report from the initial IME will act as your reminder of what you may have anticipated. To illustrate, you find a claimant with back pain to have a lumbar strain with mildly abnormal lumbar mechanics from muscular tightness. Temporary work restrictions are outlined, along with the recommendation of 8 to 10 sessions of physical therapy incorporating manual mobilization techniques and instruction in home stretching. It can be useful to provide yourself prospective reminders of what your course of action will be upon re-evaluation following that recommended treatment. For example, if the lumbar mechanics have normalized, unrestricted return to work

(RTW) follows. If symptoms persist despite normalized mechanics, magnetic resonance (MR) imaging might follow.

INTRODUCTORY PARAGRAPHS

Reason for the Referral

For most IMEs, the reason for referral can be explained as simply as, "I had the opportunity today to examine Mr. X on your referral, for the purpose of an independent medical evaluation." It is not necessary to routinely repeat each question the referring source is asking, i.e., diagnosis, recommended treatment, need and duration of restrictions, causality, and so forth.

For some medicolegal evaluations, there are one or two specific questions being raised. It may help to identify those questions in an early paragraph, particularly if an abbreviated examination is warranted. An example would be the auto insurance company that acknowledges that a permanent impairment is present after lumbar laminectomy, and that they are indeed responsible by way of causality. Their cover letter to you might question, however, whether the passive modality of hot packs in isolation is justified many months later. Your IME report in such a case would certainly still include the history and physical examination, albeit in abbreviated fashion. The bulk of the report, though, might be an explanation of why such passive treatment in isolation is not warranted, and an outline of the sort of treatment that would be justified, if any.

Disclaimer

Many clinics will have each examinee sign a form consenting to the evaluation about to occur and acknowledging that no treatment relationship will arise. Nonetheless, it is wise to confirm this soon after you introduce yourself to the client and to document this in the opening paragraphs. You might use a passage such as, "Ms. X was informed that no treatment would arise from this visit, and that the report would be sent only to you. She understood these points and proceeded." Some percentage of examinees will not understand the nature of the medicolegal evaluation, and will question why you cannot discuss your recommendations with them. If this seems to be a major point, this should be mentioned in the report as well: "Although the nature of the IME was explained carefully, Mr. X was still confused about why my opinions could not be discussed. He did agree to proceed, however."

Records You Reviewed

The most important point here is that it is unnecessary to provide great detail about every medical narrative, physical therapy progress note, computerized tomography, MR image, or radiographic report, or whatever else appears in the material you review before the examination. Recall that all of these will be in your chart if you need to testify by deposition or in the courtroom. A brief summary of the pertinent findings typically suffices. For example, "A review of reports from the treating physician shows that Ms. X was given the diagnosis of cervical radiculopathy, and was treated with ultrasound."

In some cases, more detail might be needed about specific reports. One such

circumstance would be the findings on MR imaging scans or Electromyography (EMG) tests done at two points in time. Causality might be established (or refuted) based on results from before and after a work injury, car accident, or surgical procedure. It makes sense then to provide the date of the first study with its specific findings, the same for the subsequent study, and how those results helped you form your conclusion.

An additional piece of information should be included regarding any imaging study you review. The dictation should state whether you reviewed only the report, only the films, or both. That point will often arise during your later testimony, although sometimes with an adversarial bent. Realize that even though the attorneys at a deposition are not for or against *you*, it may appear that way from the conversation. If you testify, based on your report, that you were only able to see the radiology report, and the films themselves were not available, the attorney "opposing" your opinion will question whether in fact it is more useful to see the films yourself, e.g., "Haven't you ever seen something on the MR imaging scan, being a clinician, that the radiologist did not think was relevant?" On the other hand, if you testify that you did in fact study the films themselves, an attorney will probably ask, "You are not board certified in radiology, are you, doctor?" Hence the no-win trap exists regardless of what was available, but document this nonetheless.

HISTORY OF THIS PROBLEM

If not stated otherwise, it should be assumed that the history in your report is taken from the examinee. Therefore, avoid the common tendency to start each sentence with, "The examinee (or client, or patient, or Mr. X) states (or reports, or claims) . . . ." That is implied. It is also unnecessary to document that a few details, such as dates of therapy, were provided by a spouse and not by the examinee. It is useful to record if there was sketchy memory for details. The use of an interpreter should be noted, or if the examinee's command of the English language was marginal, and an interpreter was not available.

There are cases in which the history provided differs substantially from details found in material you reviewed. It makes sense to then dictate first what was provided to you by the client, followed by, in a nonjudgmental fashion, any points of contradiction from the file. These discrepancies might be resurrected later in your report, as you explain your conclusions.

Most disability evaluators develop the skill of providing "just enough" detail in the dictation. A third party reading the report should be able to glean an organized sequence of events without having to suffer through inordinate details that do not alter the big picture. It is perfectly acceptable to say, "The clinical course is well detailed in the narrative reports of Dr. X and will only be summarized here for the sake of this report."

What you must provide is a detailed account of the current symptoms, how they have changed recently, and whether the examinee feels she or he has been improving, staying the same, or worsening in the past several months. Once again, this point of information may come into play later, toward the end of your IME report. The typical pain-related questions should be used, tailored to the specific case at hand. The pain should be characterized as to location, referral, radiation, severity, frequency, exacerbating and relieving factors, trend toward improvement or worsening, and accompanying symptoms, along with any other relevant points.

Any previous history of similar problems must also be questioned. It is not

sufficient to simply ask, for example, "Have you had back problems before," and leave it at that. Such open-ended queries lend themselves to responses that are not useful. Specific questions should be posed, such as, "Other than the usual aches and pains, have you ever had back pain before to the point of: needing time off work, having any tests like MR imaging or EMG, or having treatment such as physical therapy?" Not only are these more significant to your history than occasional aches, the events questioned can easily be documented as having occurred or not from outside records.

WORK HISTORY

Current Status

This line of questioning typically starts with a simple "Are you working currently?" Although this seems to lend itself to a simple yes or no reply, it is surprising how some will respond. For example, many will reply that they are indeed "working," when what they really mean is that they would be working if a job were found within the restrictions someone placed on them. Questions must be quite specific; open-ended questions yield less-useful information.

Assuming the examinee is currently working, ask about the following:

- Physical restrictions. Have formal limitations been placed, and by whom? Has a job been found that meets these restrictions; if so, how long has that job been performed? Has the pain (or other symptoms) improved since the switch to a light-duty position? Are the restrictions being honored, according to the client, or is a supervisor, co-worker, or perhaps the examinee herself ignoring them? There are infinite reasons you will hear why restrictions are not adhered to, many of them related to pressure in the workplace to work beyond them. All you can do in this setting is record what is reported to you.
- Time restrictions. Limitations on the number of hours worked are much less commonly provided. If a worker is part-time because of an injury, this must be recorded as well.
- Attendance record at work. There is significant correlation between low job satisfaction and how likely one is to be away from the job for any reason, including those of work injuries. Strong dissatisfaction with a supervisor or the employer in general may become obvious during the interview, and those attitudes should also be documented.

Previous Jobs

It may be revealing to chronicle previous jobs and the physical demands of those jobs. You might easily detect a pattern of "not holding a job" for more than several months at a time, often accompanied by an alleged work injury several days or weeks after starting a new position. Also find out about how demanding the previous jobs were and whether the current position represents a large increment in physical demands. It may also be revealing to ask about why they left other companies; there may be exposed a pattern of difficulty cooperating with supervisors. Such antisocial behavior could be as much a cause of the current situation as a physical impairment.

Plans for Future Employment

Many examinees in the office setting are remarkably open about their future plans. Some will state flatly that there is no way they would return to the current employer, regardless of what impairment is or is not present. Others will reveal their plans to attend school "on the company's dime," or to simply "retire" because they feel they have put in their allotted time to the employer and to "the system." Yet other clients are earnest in their desire to return to work as soon as is medically reasonable, and sometimes sooner. The disability evaluator must exercise some discretion after hearing these comments. The patient's negative thoughts might arise from frustration at not receiving proper care or at the worker's compensation bureaucracy, which indeed can be daunting. It is acceptable, however, to record these comments in your report.

DIAGNOSTIC TESTS

Your review of previous testing usually fits into one of these four categories:

- Only the report was available, not the films (or actual Nerve Conduction Studies/EMG data) themselves. It is common practice to request that films or film copies accompany each examinee and much less common for those films to actually appear at the appointed time.
- Only the films were available. You should then report what you were able to read from the study and also that the radiologist's report was not (yet) available for review.
- Both the films and the report were available, the results of which you should include in your dictation.
- Neither the report nor the films were available, and any result you record was strictly from the memory of the client.

Keep in mind that, at a later deposition, your clinical practice can be called into question regardless of which of the above occurred. For example, if the films were not available and you relied on the radiologist's interpretation, an attorney could ask whether you have ever seen something on a scan that the radiologist did not interpret as clinically relevant (or the converse). If you do add some of your own interpretation, you will undoubtedly be asked about your qualifications or board certification as a radiologist.

PAST TREATMENT

Many examinees with musculoskeletal complaints will have had some physical therapy. Your report should document the timing and content of treatment and whether it made any subjective difference in pain, strength, motion, or function. Try to delineate whether the "therapy" was in fact no more than a combination of passive modalities or if in fact a comprehensive and tailored exercise program was also incorporated. How did the client react to the exercises, and is he or she performing them at home? Was there any attempt at a work-conditioning program, and what were the results?

The other area of treatment that must be recorded is medications, usually falling into the categories of analgesics, anti-inflammatories, or muscle relaxants.

Steroid use, either orally in burst and taper dosing, or with epidural administration, should be recorded as well.

REVIEW OF SYSTEMS

It is unnecessary to carry out a comprehensive review of systems for the typical musculoskeletal disability evaluation. It suffices to simply catalog unrelated health problems, medications for those problems, and previous surgical procedures. On the other hand, it is quite important to document any condition that could affect rehabilitation efforts or healing, such as diabetes, heart disease, and the like.

PHYSICAL EXAMINATION: MUSCULOSKELETAL

Introductory Paragraph

Do not start this section with statements such as, "Examination shows a 33 year old. . . ." Age cannot be determined by physical examination. It is also not necessary to mention that the examinee appears "well nourished" or anything similar. This can be assumed to be the case, unless there is a statement to the contrary. Physical examination also cannot determine weight, but you might want to use terms such as, "who appears moderately overweight." Comment on the presence of surgical scars, or their absence, in the examined areas.

Inspection

In this section you will note asymmetries or deformities, such as scapular winging, traumatic amputation of digits, pelvic obliquity, and the like. Posture, lordosis-kyphosis, and gait and foot mechanics are also noted when pertinent. Observations that do not have a medical implication, e.g., the number and content of tattoos, are typically better left unmentioned. Another party reading such entries in your report might conclude that you carry prejudice against the examinee.

Measurements

In any case of long-standing limb symptoms, it makes sense to measure the girths of the calf/thigh or arm/forearm bilaterally. These are generally recorded at the widest circumferences, although the thigh measurement should be taken at a specific distance above the superior patellar pole, and the distance noted in your dictation. Leg-length discrepancy is also noted.

Range of Motion

For clinical evaluation or management of typical spine pain cases, there is no need to quantify ranges of motion (ROM) with an inclinometer. Such measurements hold no more weight in expert testimony than educated estimates from an experienced practitioner such as, "Neck rotation to the right lacks about

25% of expected range, about 50% to the left." All of these numbers, with gadgetry or not, are dependent upon the cooperation and pain reports from the claimant in any case. Some situations do require goniometric measurement, for example, the extent of a joint contracture that is improving with physical therapy. Keep in mind, though, that disability evaluations in some settings may *require* quantified ROM measurements, the results of which could help determine the percent impairment.

Any ROM recordings should also include accompanying symptoms and what prevented full movement. To illustrate, "Neck side-bending to the right was limited to 50%, with tautness of the left upper trapezius fibers, and pain in the same location."

Palpation

There are three main points of information to be gained with palpation:

- Presence of tenderness. This, of course, relies on feedback from the examinee. Tenderness could be present over nonmuscular soft or hard tissues, e.g., cartilage of the knee, bony insertions of tendons or muscles, or bursae, but usually is found within muscles.
- Distribution of tenderness. This is a particularly important point to record in cases of suspected myofascial disorders, and provides a means for semiquantifying a portion of the examination that is otherwise very subjective. A pattern of reported tenderness that follows recognized trigger areas (superior medial scapular border, upper trapezius fibers, and so forth) carries a different, more credible, connotation than would the report of tenderness with even light palpation in every spot touched.
- Abnormal muscular texture. Muscles that have been shortened and painful for many months or longer typically have a ropy texture to firm palpation (along with tenderness in the same locations). The presence or absence of abnormal muscle texture is not within the control of the examinee.

Provocative Maneuvers

There are numerous and very familiar provocative maneuvers for the shoulder and knee joints, searching for instability, laxity, or pain. An inflamed muscle (or musculotendinous junction or enthesis) will hurt when it is caused to contract. This proves useful in isolating portions of the rotator cuff, for example, that are affected by tendinitis, but is a useful sign for any injured muscle. The amount of pain with muscle resistance, and the force needed to evoke that, can be compared on serial examinations.

PHYSICAL EXAMINATION: NEUROLOGIC

Strength

For most muscle groups, this means using well-known techniques of manual muscle testing. In the lower limbs, though, it is imperative to use maneuvers against body weight to accurately assess the functional strength of the ankle

dorsiflexors and plantarflexors. While having the examinee perform four or five toe raises, observe and compare the bulk and contour of the calf groups.

Reflexes

The most common radiculopathy affects L5, and that stretch reflex, using the medial hamstring, should be a routine part of the lower-limb examination.[3] When done with the examinee prone, you can observe the briskness and amplitude of the muscle twitch; that position is therefore preferred over sitting.

When muscle stretch reflexes are generally hypoactive, or if there might be a subtle asymmetry, facilitation techniques can be helpful. One very effective method is to have the examinee very lightly contract the muscle group being tested, e.g., with slight knee extension, ankle dorsiflexion, or elbow flexion or extension against your mild resistance. This allows you to gauge, and provide feedback about, the degree of muscle tension developed. It is impractical to use this facilitation technique for the medial hamstring (L5) reflex.

Provocative Testing

The most common maneuver is the straight leg raise (SLR) test. This is classically performed passively with the patient supine; you must record what a positive straight leg raise test is positive for. Oftentimes, only a pulling sensation from a tight hamstring is the result. There might be low back, but no radiating limb, pain. The response that suggests nerve root irritation is radiating pain below the knee when the limb is between 45 and 60 degrees of elevation. Once the limb is in that position, avoid the use of rapid and forceful ankle dorsiflexion to confirm the finding; there is the possibility of causing root irritation that way.

Comparing the results of supine vs. sitting can be useful. Some claimants, eager to appear in pain and disabled, will report severe limb pain when virtually no elevation has yet occurred. Later in the examination, usually while testing distal limb strength, perform the seated SLR equivalent. Although the mechanics of SLR in these two postures are not identical, a large difference in reporting may be significant. You might report, "Supine SLR was + at between 0 and 5 degrees bilaterally for severe back and radiating leg pain. Later in the examination, while testing distal extremity strength, seating SLR was carried out to 80 degrees without any expression of pain."

Another type of provocative maneuver is the Tinel sign. It is important to remember that this is not reserved for the median nerve at the wrist. The positive Tinel, resulting from discharge of immature terminal nerve twigs during regrowth after injury, can be found in any nerve that can be mechanically perturbed. Rarely, this can be used to follow reinnervation after a severe peripheral nerve injury.

Sensation

Any form of sensation testing should not be considered a "hard" neurologic sign, and cannot be made objective in any easy fashion. Diminution of light touch or pin sensation in a particular pattern could support a presumptive diagnosis of a nerve root or peripheral branch lesion. Two point discrimination

appears to be most sensitive for carpal tunnel syndrome. The report of widespread "numbness" or "dead skin" throughout one or more limbs might support the opinion that in fact no objective impairment exists.

Nonphysiologic Findings

These have already been mentioned in various sections earlier. If several such findings are present, it might be helpful to summarize them collectively. The most common are:

1. Discrepancy in seated vs. supine SLR testing,
2. Widespread tenderness to palpation, not confined to generally accepted patterns,
3. Nondermatomal or nerve branch sensory loss, and
4. Discrepancy between muscle testing and observations of functional ability.

DIAGNOSIS (IMPAIRMENT)

The first paragraph immediately following the dictation of the physical examination should state clearly what impairment you found, based on the history, any test results, and most importantly, your physical examination. The impairment is the diagnosis, meaning that pain, in any of its forms, cannot stand alone as a diagnosis. Pain must be explained by an objective physiologic impairment to attain the level of a diagnosis. There will be occasions, of course, when pain is present yet no impairment is documented. It is never wise in such cases to deny the presence of the claimant's pain because, of course, there is no such measuring device. Rather, consider a passage such as, "Despite the continuing symptoms of neck and arm pain, no diagnosis can be assigned, because no impairment has been documented by careful examination of the musculoskeletal and neurologic systems, or with diagnostic testing."

Discussion of Diagnosis

A diagnosis becomes more credible when it is corroborated by several sources of information. For example, in reaching your conclusion of a cervical radiculopathy from herniated disc, you might mention that the history of neck and radiating arm pain, the positive EMG and MRI findings, and the reduced strength and reflexes in corresponding distributions all support this particular impairment. On the other hand, you should also explain here why you might be dismissing certain findings: "The disc bulge to the right at L4-L5, in the absence of canal or foraminal stenosis, is a normal finding, and is present opposite the side of symptoms."

The impairment should also be discussed in relation to the claimant's symptoms and apparent level of disability. Mild tenderness to palpation in scattered trigger areas, without other impairment, would not explain absence from work for several months, whereas an active radiculopathy from an untreated herniated disc would. If relevant, this would also be the time to mention whether this is a permanent or temporary impairment.

CAUSALITY

This refers simply to what caused the impairment you just noted. Some evaluations are requested simply for this determination. Naturally, if no impairment was found and no diagnosis could be assigned, the issue of causality does not pertain. Also, you might document a clear impairment that was not at all caused by the workplace or auto accident in question. You should then note the other, perhaps unrelated, factors contributing to the current condition, such as pre-existing osteoarthritis or a shoulder injury from weightlifting for bodybuilding. Using medicolegal terminology, a cause and effect is said to "probably" exist if you are more than 50% certain of that relationship, whereas it "possibly" exists if you are less certain than that. When numerous factors co-exist, some states will have you assign relative importance to each, called *apportionment*.

DISABILITY

Disability speaks to the clinical relevance of the impairment. Most often, this will be determined as it pertains to the examinee's ability to return to work, but may also be pertinent regarding ability to perform usual daily living and household activities. In the state of Michigan, for example, a claimant with documented impairment from an auto accident is entitled to "household replacement services" as needed on a temporary basis, but for no longer than 3 years.

MAXIMAL MEDICAL IMPROVEMENT

Although there is no universally accepted definition of maximal medical improvement (MMI), a useful concept is this: MMI has been achieved when further, formal medical input (diagnostic testing or treatment, in particular) can no longer be expected to have a favorable effect upon the objective impairment. From this one can then infer the following:

- MMI does not mean that symptoms have completely resolved. That might be because the remaining impairment is permanent (e.g., a rotator cuff tear that will not be operated on), or because the claimant can continue on a home exercise program independently, which, perhaps with the use of modalities or medications or both, will ameliorate the symptoms eventually;
- MMI can be determined separately for co-existing impairments in the same examinee;
- If previous treatment was ineffective, you might be asked to estimate when MMI would have occurred if proper treatment had been given; or
- If no impairment was found on examination, the concept of MMI does not apply.

Many medicolegal evaluations revolve around the determination of whether MMI has yet been achieved. Although somewhat arbitrary in many cases, the MMI date often signals the end of benefits, if the impairment has resolved. If your determination focuses clearly on the objective impairment, and not on symptoms alone, the arbitrariness of MMI should be minimized.

The foregoing discussion of MMI incorporates a fairly strict interpretation that is useful in many settings. Exceptions and differences of opinion must also

be noted. As an exception to the above definition, consider a farm worker who sustained a mid-forearm traumatic amputation. The impairment is stable once healing has taken its course, but MMI has not been achieved until full rehabilitation efforts have been completed, with prosthetic fitting and training. Therefore, in some instances, *accommodation to the impairment* also factors into the determination of MMI.

A more controversial example would be post-traumatic fibromyalgia or indeed many of the so-called overuse soft tissue syndromes. The strict MMI interpretation would not allow ongoing treatment or work restrictions in such cases because no objective impairment can be found. Others can quite logically argue that if certain activities cause pain, e.g., reaching overhead, that should be limited simply because it does cause symptoms. Proponents of the more rigid reading (this article author included) could counter that an avid golfer might ache after playing 18 holes, yet if no impairment whatsoever were found, it would not be in anyone's best interest to restrict him from playing permanently. The obvious analogy can be carried into the workplace.

There is no single right answer to the questions that can be raised in these gray areas of disability evaluation. Local practice patterns, as well as personal and professional beliefs, will influence your thoughts here. Keep in mind, however, that referring sources will at least expect consistency and your ability to defend your opinions during later testimony.

WORK CAPABILITY

In many workers' compensation cases, the impairment is not in question. Rather, the primary issue raised is often when and in what capacity can the examinee RTW. When available, a detailed job analysis or listing of the essential functions should be studied. Rarely, a videotape of the job station may be produced.

The three main categories of work capability are (1) able to RTW without restrictions, (2) able to RTW with restrictions, and (3) unable to RTW. Your report should clearly outline why you feel physical restrictions are needed and for how long. Also, will your recommended treatment, if any and to be outlined later, then allow less restricted RTW? The conclusion that work restrictions need to be considered permanent should be reached with great caution and only in the face of serious impairment that will not improve notably. You are better served to recommend re-evaluation in 6 or 12 months and to revisit restrictions then.

Many practitioners rely on a functional capacity evaluation (FCE) to determine work abilities.[6, 7, 14, 15] This author does not feel FCEs are widely useful. With a highly motivated worker, the FCE will not yield information beyond what the worker can provide. A poorly motivated worker, on the other hand, will likely not put forth full effort in the FCE,[2, 13] resulting in "documentation" of a reduced capability.[10] For similar reasons, work hardening is often marginally useful, particularly if the employer can provide restricted work. That allows for "on-the-job" work hardening, with time and cost savings as well. Literature citations abound expressing skepticism about the accuracy of measurement techniques used in FCEs.[1, 9, 11–14, 16]

Large employers in recent years have developed favored work programs, but some lines of work do not lend themselves to light duty (e.g., steel mill, railroad yard). In such cases, you might consider recommending physically unrestricted RTW, but at 4 hours daily for the first month, followed by 6 hours daily for a month, 8 hours daily for a month, then full-time, including overtime,

or some similar schedule. This represents yet another form of on-the-job work hardening that allows for gradual physical reconditioning as well.

NEED FOR DIAGNOSTIC TESTING

If you feel that diagnostic testing is needed before finalizing the IME opinion, you may order those tests yourself. Such ordering by itself does not constitute creation of a doctor-patient relationship. If electrodiagnostic testing is needed, you may perform this yourself, again without forming a treating relationship with the examinee. Of course, authorization for all testing must have been received prospectively, or must be obtained from the third party involved before scheduling.

When testing is needed, the most conservative approach is to defer all IME-related opinions until the results can be reviewed. An alternative approach is to outline recommendations based on the worst finding the test might show, then amend those recommendations as needed later. To illustrate, a lumbar spine MR imaging scan is ordered to exclude the possibility of a lumbar disc herniation, even though you feel that is somewhat unlikely. Your initial IME report can allow RTW with restrictions appropriate for a disc injury, with a supplemental report generated once the MR imaging report or films are reviewed.

A tricky circumstance arises when your final IME opinion awaits the result of a test, but that study does not take place, for any of myriad reasons. Rather than defer your final report indefinitely, it makes sense to provide your best opinion based upon the information you do have. For example, the neurologic examination of the upper limbs might be completely normal in the face of persistent numbness in one arm. If the claimant refuses a study, your final opinion should make use of the normal physical examination, leaving open the possibility of an amended opinion if the study is agreed to at a later date. The documentation of an objective impairment explaining the symptoms should remain the most important criterion in your IME opinion. Symptoms can guide you where to search, but if you routinely allow for disability based on symptoms alone, the strong argument can be made that your conclusion does not serve what is in the best medical interest of the examinee.

TREATMENT RECOMMENDATIONS

Jaded observers will remark that the IME opinion is only obtained to deny the existence of impairment in the claimant and to therefore conclude that no treatment is needed. In fact, the ethical evaluator often finds that only inefficacious treatment has so far been provided, which explains why an impairment persists, and can play a crucial role by detailing exactly what proper treatment would entail. Recommendations should specify the frequency, duration, and content of physical therapy or other interventions.

You might also be asked to determine whether previous treatment has been effective and warranted. Keep in mind that your opinion here could be used to deny retrospectively third-party payment to the provider of that treatment. If only passive modalities have been used, without the introduction of an active exercise program, it is a simple matter to conclude that none of that type of program can be considered justified for most musculoskeletal impairments. It carries more weight to back that opinion with the claimant's report. A typical scenario finds the examinee reporting temporary relief from the hot packs, massage, and ultrasound, lasting a few hours after each session. If, at a different

point in the interview, you ask how she or he feels now compared to the pertinent number of months ago, the reply will be "no better, maybe worse." (Otherwise, they likely would not be sent for IME in the first place.) Your concluding statement might then read, "The previous treatment of passive modalities used in isolation cannot be considered warranted, and by Mr. X's own report, it provided no sustained relief yet continued for many months."

If faced with having to criticize previous treatment, take care not to include in your report any pejorative statements about whoever provided that treatment. You may feel that financial gain was the only reason for the passive modalities being used, but the IME report is not the forum in which to philosophize.

FOLLOW-UP RECOMMENDATIONS

Some portion of IME opinions will conclude with the recommendation that a follow-up evaluation occur. This might be for the purpose of testing, which for the Physical Medicine and Rehabilitation Physician usually means electrodiagnostic testing. When possible, however, and after authorization is obtained, carry out the EMG study the same day as the initial visit. Remember that many examinees find the IME to connote an adversarial experience and might not return for what is in fact a voluntary and somewhat invasive study. If you are simply reviewing the results of recommended testing, e.g., an MR imaging scan, it is not necessary to re-examine the claimant.

You might also suggest a follow-up evaluation after treatment has occurred. If you found lumbar muscular tightness leading to abnormal mechanics of motion, your report could detail the need for 9 or 12 sessions of physical therapy, incorporating mobilization and other manual techniques. The second IME visit would then take place toward the end of or after the physical therapy, to determine if in fact the abnormal mechanics have been corrected. In turn, you will then update your opinions regarding work ability, the need for household assistance, further treatment, and the like. If your original IME allowed restricted RTW for a given duration, a follow-up visit might be needed after that designated amount of time.

SUMMARY

Critics of the system within which IMEs occur might argue that there is in fact no such entity as a truly impartial evaluation because the practitioner always is aware of the source of payment for the visit and will color opinions in favor of that payor. Nonetheless, the ethical practitioner has no problem whatsoever refuting that rather cynical attitude. First, payment for any type of clinical visit must come from somewhere. Most importantly, always keep in mind what is in the best medical interest of the person you are examining, and you will avoid virtually all ethical dilemmas.

To illustrate obvious examples, if a claimant has the objective impairments of herniated disc with associated radiculopathy, it makes no medical sense, and would certainly be unethical, to allow unrestricted RTW to a physical job. That clearly would not be in the best interest of a patient you were treating, nor should that be your opinion for an IME. Similarly, a person without any objective impairment documented after careful search is not well served by a continuing program of medications, time off work, useless modalities, and a growing "sickness" frame of mind. That would definitely not be in their best interest, and your opinion for a treatment case or for an IME should reflect that without hesitation.

Once you make a consistent habit of always invoking what you truly believe to be in the best medical interest of the examinee, the long-term interests of the other involved parties will also be well served as a consequence. The insurance company will not be asked to either continue paying treatment and wage replacement costs for someone who could safely work, nor will it be forced to accumulate the unnecessary expenses of recurrent injuries to an injured worker returned to work prematurely.

By faithfully adhering to the simple principle of not swaying from the best interest of the examinee, you might lose referral business from some sources. Certain employers, case managers, insurance carriers, attorneys, or others might want to *rely* on your opinion in all cases, perhaps to conclude that claimants are rarely if ever impaired (or at least not from work or auto accident–related events). Your practice and your reputation are much better off without that business. A well-planned and carefully performed IME, resulting in a detailed, understandable, and defensible report with the elements outlined in this article, will serve you and your referring sources well.

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PROMOTING ETHICAL AND OBJECTIVE PRACTICE IN THE MEDICOLEGAL ARENA OF DISABILITY EVALUATION

Michael F. Martelli, PhD, Nathan D. Zasler, MD, and Doug Johnson-Greene, PhD, ABPP

Medicolegal evaluations require specific skills that too frequently exceed the expertise of professionals who perform them. This is particularly true in the personal injury arena where the promise of large financial settlements for persons with physical or neurologic injury or impairment has resulted in a large heterogenous group of forensic examiners who claim expertise in this domain. Further, many practitioners possess little training or expertise in identifying and mitigating ethical conflicts that arise within the medicolegal arena. Some ethical issues are avoidable and tend to be associated with the unscrupulous practices of a few, and other dilemmas are part and parcel due to the adversarial nature of the legal process. For example, the examiner's role in an independent medical examination (IME) conflicts with the customary and usually exclusive focus of training in medical and graduate schools: that the patient's well-being is paramount. The distinguishing feature with medicolegal contexts that must be emphasized is that in order to maintain objectivity, the patient-doctor relationship is transformed into an examinee-examiner relationship, devoid of the usual health care scenario involving collaborative rapport and expectancies of trust and assistance.

In this article we discuss professional standards and ethical responsibilities of forensic experts who conduct medicolegal evaluations and emphasize the role of the expert in facilitating objective evaluations that assist the court in its

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decision-making process. It should be noted that many of the standards discussed in this article are predicated in part upon relatively more refined developments within the psychologic and neuropsychologic communities that are more broadly applicable to the physiatrist as independent examiner.

PROMOTING OBJECTIVITY

The scope and content of an IME, subsequent reports, and testimony offered in depositions and court proceedings should ideally be the same regardless of who retained the professional in question. However, lack of objectivity is an all-too-frequent occurrence that tends to explain much of the observed disagreement among professionals. There are several common sources of bias, most of which can be addressed in terms of an expert's professional ethics.

COMMUNICATIONS IN THE FORENSIC EVALUATION

The standardized IME must include clear communication of ethical standards with both the attorney and examinee before commencement of the evaluation in order to provide informed consent and facilitate objectivity. Hence, the unique intent of the assessment is clarified to the examinee before beginning the examination, and it is explained that opinions regarding diagnoses, prognoses, and recommendations will not be shared at the conclusion of the IME. The examinee presents voluntarily, except in the case of court-mandated examinations. Examining clinicians are increasingly adopting a policy of assuring consent by having the examinee sign a release for the IME with a witness present; even if they do not carry much weight in court, they are nonetheless intuitively appealing and serve as a guide for communication. Finally, this split between roles of treating clinician versus the independent examiner produces wide discrepancies in terms of the type, scope, and time requirements of the evaluation.

The expert must also adhere to professional ethics in communications with the attorney who retained their services. Although it is permissible to discuss particular areas of concern to address in the evaluation (e.g., ability to hold gainful employment), it is not appropriate for attorneys to dictate the methods of evaluation, the emphasis of data obtained from evaluations, or to alter or suggest modifications to reports based upon an expert's evaluation. However, it is acceptable for experts to review preliminary findings with attorneys to determine if reports should be written based upon the support they lend to their case. It should be noted here that reports, if written, are discoverable in legal proceedings.

THE "PROFESSIONAL" EXPERT WITNESS

Some experts may be overly invested in the medicolegal community and will have their objectivity compromised, or at least have the appearance of such. As a liberal guideline, experts who derive more than half of their income from medicolegal evaluations are probably too invested in forensic practice. One danger is that experts may develop a fear that they cannot continue to obtain lucrative forensic cases unless they offer opinions consistent with the views of the attorney who has hired them. Such dependent relationships are by definition slanted towards a biased outcome and should be avoided. As is often the case,

experts who are overly invested in medicolegal practice will have an unequal weighting of referrals from defense or plaintiff attorneys, and in extreme cases experts may completely exclude one of these two groups. In the personal injury arena, there have been examples of experts who appear to be willing to testify that brain injury is present in exchange for their professional fees, regardless of findings from objective evaluations. Striving to maintain a reputation for objectivity is a clearly desirable remedy.

Bias can also be associated with exclusive attorney-referral patterns. Many attorneys will avoid situations where there is consistent use of the same experts because of the appearance of bias. Nonetheless, the medicolegal community is not without examples of professionals who have been the sole forensic expert for the entire caseload of an attorney during the course of several years. Probitive questions during voir dire (i.e., questioning of an expert to establish the scope and depth of their expertise before their acceptance as an expert) frequently address such issues, along with financial arrangements associated with forensic practice, and so forth.

ETHICS IN CONDUCTING MEDICOLEGAL EVALUATIONS

It is important to note that, as a group, physicians pledge to uphold the Hippocratic oath, which directs that first and foremost, they do no harm. Similarly, licensed psychologists are expected to promote the welfare of their patients and are required to adhere to the formal professional ethical guidelines published by the American Psychological Association (APA) and any regulatory state statutes. The common thread implicit in all professional interactions is doing no harm to patients and others to whom the expert has responsibility. This ideal extends to professionals' work in the medicolegal community.

In a survey of the membership of the APA, 679 responses from randomly sampled psychologists[16] were collected regarding ethical concerns in clinical psychologic practice. Of the 23 categories into which critical incidents were separated, forensic psychology ranked as fifth among the 23 categories of reported incidents of ethical dilemmas, behind confidentiality, dual relationships, payment concerns, and teaching/training concerns. Major issues concerned the presentation of false testimony, the attorneys' role in procuring desirable (potentially false) testimony, rendering of conclusions not grounded in objective data or scientific principles, and the potential harm of reporting inaccurate data in forensic cases. The most bitter language, however, including the word "whore," was used to describe psychologists who seem willing to present false testimony in court or who succumb to alleged attorney's pressures or inducements for this kind of testimony.

A more recent membership of the National Academy of Neuropsychology[8] revealed concerns from the majority of 456 respondents regarding examiner competence (64%), inappropriate use of tests (61%), and conflict between the law and ethics (55%). Further, 50% opined that the APA ethics code was insufficient to address ethical problems in neuropsychology, whereas 57% expressed dissatisfaction with the ability of ethics boards to enforce guidelines.

Clearly, such issues concern professionals practicing in the forensic and medicolegal arenas, the legal system, and the entities that may make policy concerning the training and certification for professional competency. Unfortunately, most physicians and psychologists acknowledge that they receive insufficient formal training or education with regard to ethics in medicolegal/forensic situations and that guidelines for ethical medicolegal practice have been lacking.

Problematic situations are inevitable when medical and psychological ethics are brought into the courtroom, where adversarial client advocacy is the rule. Appreciation and sensitivity to the potential disparities between conflicting interests and ethics seem the most logical approach to protecting the ethics and objectivity of medical and psychologic examiners while affording the courts and its representatives benefit from their expertise. In the current article, relevant ethical issues are reviewed in order to illustrate ethical behaviors as they relate to many common aspects of medicolegal situations. Although some of the current dilemmas described are unique to the interaction of the American legal and health care systems, most have international relevance.

EXPERTISE AND QUALIFICATIONS IN MEDICINE AND PSYCHOLOGY

It has been previously noted that formal guidelines describing the qualifications to serve as an expert witness are only recently being developed.[4, 5, 10, 12] General Principle A of the APA's Ethical Code for Psychologists[4] implicitly addresses this issue, and guidelines developed for neuropsychologists by Binder and Thompson[5] cover issues relating to maintaining awareness of the relevant neuropsychologic literature, seeking rigorous peer review to ensure competence, limiting practice to boundaries of competence, and seeking consultation as appropriate. Parallels can certainly be applied to physicians involved in the same process.

In 1996, the American Medical Association (AMA) published its Code of Medical Ethics through its Council on Ethical and Judicial Affairs.[2] Although this document is relatively general, it does stipulate that "medical experts should have recent and substantive experience in the area in which they testify and should limit testimony to their sphere of medical expertise." The code also notes that the "medical witness must not become an advocate or a partisan in the legal proceeding." Additionally, it encourages witnesses to inform attorneys of "all favorable and unfavorable information developed by the physician's evaluation of the case."

There have been numerous other specialty organization publications dealing with recommendations for expert witness testimony. The American Academy of Physical Medicine and Rehabilitation's Board of Governors approved a "white paper" on expert witness testimony in April of 1992.[1] Central to these guidelines is the concept that the expert witness functions to educate the court as a whole, as opposed to "representing either of the parties involved, even though the expert witness may have been contacted primarily by one party." The guidelines note that the ultimate test for accuracy and impartiality is a willingness to prepare testimony that could be presented unchanged for use by either the plaintiff or defendant. Further review of this document reveals several recommendations which warrant attention: (1) the physician should identify opinions that are personal and not necessarily held by other physicians; (2) a distinction should be made between medical malpractice and medical maloccurrence when analyzing any case; and (3) there should be a willingness to submit transcripts of depositions and courtroom testimony for peer review.

Especially relevant are guidelines which have been adopted by the American Academy of Neurology and developed by the American Board of Medical Specialties for the physician expert witness,[3] which include the following two standards:

1. The physician expert witness should be fully trained in a specialty or a diplomate of a specialty board recognized by the American Board of Medical Specialties, and qualified by experience or demonstrated competence in the subject of the case. The specialty of that physician should be appropriate to the subject matter in the case.
2. The physician expert witness should be familiar with the clinical practice of the specialty or the subject matter of the case at the time of the occurrence, and should be actively involved in the clinical practice of the specialty or the subject matter of the case for 3 of the previous 5 years at the time of the testimony.

Standardized medical school curriculum, standardized residencies approved by the American Board of Medical Specialties to ensure common standard compliance, written examination of basic medical information for individuals with degrees from foreign medical school, and eligibility to sit for board specialty certification examinations all exist as clearly demonstrable criteria.

The second standard regarding subject matter competency proscribes the offering of opinions outside areas of a professional's competence. In addition, it requires continuing active clinical practice in the area relevant to expert testimony, for 3 of the previous 5 years from the date of testimony. The failure to define level of "active clinical practice" might seem somewhat problematic, although by implication, greater versus lesser levels of active practice would be more consistent with this principle.

An additional issue with regard to identification of good expert witnesses in the area of evaluation of persons with neurologic disability relates to credibility. Aside from the issues discussed above, it should be noted that many practitioners flaunt multiple certificates hanging on their walls. However, for many organizations, these certificates represent little more than "vanity" boards, where eligibility requirements are hardly stringent. However, integrity of the individual could, in part, be measured by the quality of the organizations they belong to and the thoroughness of the inclusionary process for each organization. Relevant questions for attorneys, as well as other consumers interested in evaluating the credibility of experts, include whether the certifying organizations required the individual to take some type of oral or written test, what other inclusionary criteria were employed, whether attendance is required at a certain number of approved courses per year, whether they are the primary certifying organization, and so on. Importantly, inquiries about manner of receipt of board certifications and diplomates is important, given that certifying organizations and clinical specialty boards may have, in early years, allowed "grandfathering" of persons who were not required to meet current inclusion requirements.

Examination of the individual's publication record, as well as the types of publications, should be assessed. Relevant questions would include whether the articles were published in peer-reviewed publications and their recognized quality. In addition, lectures in one's claimed area of expertise should be reviewed, as should the organizations for whom they have lectured, with an emphasis on looking for those that are nationally or internationally recognized. It is also important to critically examine an expert's qualifications based in part on clinical, scientific, academic, and administrative positions held, and the manner in which they gained appointment (e.g., the individual's historic performance, a voting process, or some less-selective process).

DUAL/MULTIPLE RELATIONSHIP CONSIDERATIONS

Multiple relationships potentially constitute an ethical dilemma for physicians and psychologists in the medicolegal context. For example, as indicated in

APA Ethics Code, section 1.17: "Psychologists must always be sensitive to the potential harmful effects of other contacts on their work and on those persons with whom they deal. A psychologist refrains from entering into or promising another personal, scientific, professional, financial, or other relationship with such persons if it appears likely that such a relationship reasonably might impair the psychologist's objectivity or otherwise interfere with the psychologist's effectively performing his or her functions as a psychologist, or might harm or exploit the other party."

With regard to the usual focus in clinical practice, there is a strong tradition in psychology relating to proscription of both developing personal relationships with persons who are current or former patients, or providing psychotherapeutic services to persons with whom a previous personal relationship exists. In medicolegal work, the latter protection is most relevant. A fairly consistent opinion exists that a pre-existing professional relationship would represent a potential conflict of interest and interfere with the objectivity required by an expert witness. As such, the presence of a pre-existing relationship might eliminate consideration from serving as an expert witness in the case where any other expert is available. It should be noted that this mandate is often at odds with the conceptualization of experts in the legal community, where "treating clinicians" are often considered to be more credible experts from the standpoint that they have more familiarity with the patient.

The only situation where an exception might occur would be when no other expert is available or can be made available, or where declining to serve as an expert witness and the resultant potential harm to the patient through deprivation of needed service outweighs threats to objectivity. If such a circumstance occurs, the only prudent course of action would seem to be to document the pre-existing relationship in the forensic report and to document procedures and safeguards employed in order to facilitate the highest possible levels of objectivity. This should of course be balanced against the potential conflict in the therapeutic relationship that would arise if the patient did not receive the expert testimony they desired or opinions were not fully supportive of the legal claim being sought in the case.

With regard to ethical conflicts caused by potential multiple relationships of medical professionals engaged in standard medicolegal practice, Blau[6,7] differentiated the following professional roles: (1) "Treating Doctor," who has a special (usually empathic) bond with his or her patient and whose role is to describe the "everyday" treatment procedures that were employed and not offer opinions beyond those contained in their reports or perform evaluations on the basis of anything other than medical necessity; (2) "Expert Witness," who without previous knowledge of the examinee obtains special and extraordinarily complete information and for whom, in order to promote objectivity, no bond with the examinee is permitted; (3) "Trial Consultant," whose function, consistent with the adversarial process, is to assist with critical scrutiny and impeachment of experts and opinions from the opposing side. As Blau notes, these roles represent different interests and obligations. Failure to set limits and avoid mixing of the conflicting interests inherent in these contrasting roles would undoubtedly reduce objectivity and compromise the opposing welfares of the different parties to whom obligations are maintained.

Unfortunately, it is a frequently observed situation by the authors that treating clinicians are often asked to serve as "expert" witness when other professionals are available. Such practice is understandable but nonetheless problematic. This practice is appealing to attorneys for several reasons, including (1) ease, because the professional is already involved; (2) inherent savings in time and cost to the patient and their legal representative; and (3) built-in tendencies for increased patient empathy and advocacy inherent in clinician-patient relationships. The problems include mixing of usually incompatible roles if the clinician agrees to take on the functions of an expert witness. The fact that clinicians seem frequently to accept these requests may be explained by the fact that typical ethical codes of professional conduct give greater emphasis to proscription of conflicts between professional and nonprofessional roles and activities than between differing professional roles. As argued by Strasburger, Gutheil, and Brodsky,[9] these conflicting professional roles are "best avoided by offering the patient's treatment record in lieu of testimony." They go on to recommend that "the clinician who does testify as a fact witness should rigorously maintain role boundaries by declining to perform the functions of an expert witness, such as reviewing the reports or depositions of other witnesses." In other words, treating clinicians should ideally provide testimony only as a fact witness. In situations where they cannot avoid testifying as an expert witness, they should acknowledge the inherent conflicts in both testimony and reports.

Clearly, instances exist where the mixing of roles of "treater" and "expert" may be unethical. For example, a forensic examiner can, instead of serving as an expert witness, initially see attorney-represented clients who are routed indirectly from some other referral source for clinical treatment. After one to a few visits, the services "become" forensic (e.g., include a comprehensive evaluation with review of extensive records and provision of medicolegal opinions). This "expert in treater's clothing" then provides testimony as a treating clinician, with several self-serving and misrepresentative benefits: it protects them from extensive questioning about the amount of medicolegal work they perform (in many states this is even restricted for treating doctors), and it artificially reduces statistics about actual medicolegal work performed, both in cases where this might be asked when serving as the alleged "treater" and when they serve as an expert. Such practice is clearly proscribed and may even be illegal when the medical insurance company is billed for initial visits.

With regard to the relationships between attorneys and treating practitioners, contrasting professional motivations and standards produce frequently conflicting interests. It should be noted that, just as financial incentive represents a potential threat to objectivity for patients, a similar threat exists for medical practitioners. Given the discrepancy between the adversarial patient advocacy of attorneys and the dispassionate, objective scientific ethics required of physicians and psychologists, concern must necessarily be raised when one considers that attorneys are the usual referral source, payors, and consumers of examination findings and reports from experts. Furthermore, forensic and medicolegal evaluations tend to be conducted by a limited number of professionals in the community, which increases the likelihood that social relationships between referring attorneys and medicolegal evaluators will develop. It would seem naive, especially at a time when insurance reimbursement is severely restricting payments, to think that attorney satisfaction with examiner findings is an irrelevant factor in the development of referral decisions and formal referral relationships or social relationships. Subtle influences in interpretation of test results and adoption of adversarial and dualistic (e.g., either-or, black-white) tendencies in interpretation of findings would not be unexpected developments for which the expert examiner or witness may be completely unaware. Such subtle threats to the objectivity would seem especially likely in cases of greater ambiguity in either test results, behavioral observations, or responses on measures of motivation and response bias.

The mere process of the referring plaintiff or defense attorney calling or consulting with the examiner to discuss initial findings and favorability to the client-attorney team represents an invitation to join the client-attorney team. Depending on favorability of findings, additional consultations may be scheduled with the expert regarding methods of presenting findings and invariably, juxtaposing the findings against opposing counsel arguments. This practice represents a subtle but incremental team invitation. This veiled invitation to join the client-attorney team then becomes much less subtle when the issues of validity of findings become equated with "winning" in court by favorable jury or judge ruling.

Equally important are the influences of an adversarial process, which undoubtedly reinforces dualistic opinions. Uncertainties, shades of gray, and reservations are usually not conducive to an adversarial process and are often eschewed in the legal process. Hence, the initial selection of an expert is likely to be influenced by reputation and history in regard to the expert's tendencies to think, for instance, in "black and white" versus "shades of gray," or to find single causes versus multiple determinants of behavior. Much less obvious would be the tendency for social reinforcement and subtle increases and decreases of interest or ego approval, to potentially influence opinions in borderline situations. For example, in the case of ambiguous clinical findings where an opinion is rendered in an attorney consultation, the tendency to selectively consider evidence in accordance with existing bias could be fueled by the clinician's underlying discomfort with expressing opinions that appear uncertain or displeasing to the retaining attorney.

In a sense, many physicians and other health care professionals feel symbolically dethroned by managed health care administrators and organizations. Their value and sense of self-worth is diminished when their opinions and recommendations are questioned and constrained by considerations of necessity, defined too often by bottom-line business accounting. Unfortunately, economic factors may also create pressures to identify new income sources for health care providers. Clearly, litigation represents one of the last unregulated frontiers. The potentially lucrative attorney-referral system for medicolegal work encourages developing a bias towards subtle reinforcement of adversarial and dualistic opinions and ethics. As such, the typical health care professional may find it difficult to maintain his or her scientific objectivity. In an effort to propose a remedy, Brodsky[9] offers one of the more promising recommendations regarding protection for medical professionals from blending of the disparate responsibilities between themselves and attorneys. Brodsky suggests an objectivity quotient where the number of cases in which there is agreement with the referring attorney is divided by the total number of cases. He suggests that base rate and referral difference be acknowledged and offers a preliminary cut-off point of .8 or greater for suggesting pre-existing bias. The present authors consider this a somewhat liberal cut-off, and suggest a maximum of .75.

ETHICAL ISSUES: CONDUCTING AN IME

Informed Consent

Within the context of the actual examination, it is paramount that the examining clinician explain to the examinee the tests and the procedures being utilized in order to optimize examinee compliance with the testing. Examiners must be careful about such testing so as not to misrepresent the purpose of the testing to the examinee. That is, the testing must not be construed in a manner that further increases distrust in a process that, by its legal nature, is adversarial.

Many evaluations that are conducted from more traditional clinical referral sources, although not originally performed as medicolegal evaluations, become part of subsequent litigation proceedings. This is especially true in cases of injury and impairment. The medicolegal context clearly imposes special obligations and responsibilities for the medical professional. With regard to the psychologist and neuropsychologist, relevant professional ethical principles have been elaborated. Johnson-Greene and his colleagues[11] have provided informed-consent guidelines for evaluations. They recommend that examiners explain fully, to all patients in language that can be easily understood, the purpose of the examination, the reason for referral, and any limitations of confidentiality. In medicolegal evaluations it is also important to indicate who will provide feedback about results or explain that the circumstances of the evaluation preclude such feedback.

The ethical principles and related guidelines are probably more easily observed for evaluations conducted at the request of the plaintiff's attorney, who functions as patient advocate and has usually communicated the purpose and potential benefit of the evaluation. In addition, the manner in which feedback will be provided is explained. In contrast, requests for independent medical/neuropsychologic evaluations from defense counsel present a more problematic situation. The examinee must be similarly informed regarding the purposes and nature of the assessment and the psychologist's relationship to the attorney or insurance company explained, along with information that feedback will not be provided directly to the examinee. Notably, the very nature of discovery in an adversarial legal system may promote distrust and will likely produce a considerably different context in which performance is observed.

Third-Party Observers

In the past, court orders have sometimes permitted attorneys and/or legal representatives to sit in on independent evaluations. In such cases, the independent evaluation process is potentially corrupted, and an additional and uncontrolled factor is added that may influence examinee (or examiner) behavior and performance. Less invasive, but still disruptive, in the opinion of the authors, is videotaping of the independent examination. Probably least disruptive, but still somewhat of a threat to the integrity of the process, is the practice of audiotaping of independent evaluations.

An additional ethical threat is posed where the material of tests and test procedures is revealed. Unprotected disclosure of assessment instruments potentially reduces the validity of such procedures in future assessment situations with other persons and hence potentially compromises the greater welfare of the public at large.

Notably, one of the tenets of the independent examination is that the examiner conveys only information that was garnered within the context of the examination, does not alter examination findings in any way, and does not document things that did not occur. At a less tangible level, the examiner makes objective clinical interpretations and inferences based only on dispassionate logic, devoid of personal interest or interests of others. Unlike attorneys, whose explicit purpose is as an adversarial advocate for their client, it must be understood that the examiner should function only as an advocate for objective findings. Unfortunately, the adversarial nature of courts, legal proceedings, and attorneys too often "creeps" into the scientific arena and introduces a significant

and powerful threat to objectivity that can produce bias in persons purportedly functioning as scientists. This creeping adversarialism, when manifested in the examinations and opinions of scientists, then only increases the natural distrust generated by systems adhering to adversarial principles. Of course, these systems, by their nature, must attempt to discredit even the most objective scientific procedures and findings. Demands to be present and observe independent examinations may be either reaction to fear of adversarial or biased procedures from the examiner, with or without reason, or attempts to collect as much information as possible to build stronger adversarial arguments to impeach opposite opinions.

Available Guidelines and Assessment Procedures

Medicolegal referrals represent examples of situations where documentation regarding the evaluation and all procedures administered is usually closely scrutinized by opposing counsel and their team of experts. Hence, tests and assessment procedures selected for medicolegal circumstances usually represent measures with a stronger research database, greater acceptance within the profession, and greater established history of use in the courts.

Report Content and Related Issues

The following components represent necessary and usual parts of a comprehensive assessment that physician examiners should include for any examinee: examinee demographic details; referral source and party responsible for payment; basis of report; documents requested and reviewed, including those not received; history of present illness; past medical history; family medical history; psychosocial history; educational history; vocational history, military history, if applicable; legal history, if applicable; review of systems; comprehensive examination findings, including pertinent negative findings; diagnostic impressions; opinions regarding maximal medical improvement; causality and apportionment opinions; recommendations; and relevant appendices.

It is important to delineate specific information relevant to opinions when reviewing documents that have served as the basis of the report. Although many lawyers feel this is a repetition of already available information, it is important to provide documentation not only to demonstrate that the records were reviewed but also in order to allow for a more deliberate analysis of the information, temporal relationship of complaints to the injury in question, analysis of symptom profile in correlation with the type of injury being claimed, consistency of reporting over time, findings suggestive for recovery pattern over time (or lack thereof), and clear delineation of inferential reasoning, among other purposes.

It is also important to acknowledge information that was potentially relevant to the evaluation, but unavailable or not provided. All too often, for example, examiners are not given an opportunity, or do not make the effort, to interview corroboratory witnesses. This seems to be much more of an issue in the context of defense evaluation than for plaintiff examinations. To legitimate examiners trying to do a thorough job while acting as advocates of truth, this can only be frustrating.

As part of the analysis of information and examination findings, it is paramount for an examiner to include in the report an evaluation of the appropriateness of the diagnostic testing procedures and process; an estimate of the reliability and validity of the findings that served as a basis for impairment claims; an estimation of degree to which the measures used were specific and sensitive to the condition being examined; and the degree of confidence in interpretations and opinions offered.

Notably, many examiners feel uncomfortable commenting on the testing procedures and conclusions of other clinicians. Objective assessment requires global analysis of opinions. This type of commentary is inherent in performing an adequate and comprehensive evaluation of any case. Meticulous evaluation of preinjury problems, including previous treatment, medical, psychiatric and otherwise, developmental difficulties (e.g., attention deficit disorder, or hyperactivity in school), psychoemotional problems during childhood, and learning disabilities, among other variables, must all be evaluated within the context of the clinical presentation. Previous injuries, surgeries, and past use of medication, among other factors, should be assessed, as should the frequency, severity, and potential functional significance of any complaint that is being claimed post-injury that also was present preinjury.

The individual's legal history, including police records, should be requested and reviewed because this may have an impact on understanding current behavior. A history of certain types of legal problems may make an examiner more suspicious of certain reported symptoms; nonetheless, ethical imperatives require that the examiner remains unbiased, complete an objective assessment, and not assume that individuals with certain types of background do not incur legitimate injuries.

A comprehensive examination, including assessment of neurologic and musculoskeletal systems should be conducted by the medical examiner to include measures of cognition as well as behavioral functioning. Inherent in such testing should be evaluations both from a physical as well as mental standpoint of so-called response bias (making a conscious effort to present oneself as better or worse than one really is).

Ethical Considerations When Submitting Reports

It should be noted that, just as ethical considerations clearly proscribe altering examination findings in any way, or documenting things that did not occur, they also proscribe leaving out, or altering, potentially salient information from forensic or other reports. The matter of issuing draft reports before the final reports poses a dilemma that represents a potential danger to ethical conduct on the part of an examiner. By their very nature, they represent not only an opportunity for nonobjective input from the consumer but possibly an invitation. For that reason, they should be avoided. In cases where preliminary information is offered in writing, a letter or memo would probably be more appropriate.

In cases of requests issued from attorneys or other referring parties for changes to reports, often made for "legal purposes" (e.g., to clarify technical points for the court), careful scrutiny is indicated in order to avoid breaching objectivity and professional ethics. The case of the retaining attorney making a request for changes to phrases or words in the report also raises special concerns. Given that such requests inherently raise appearance or suspicion of impropriety, a prudent recommendation would seem to be to resist requested changes to a report, except for specific, documented correction of errors or inaccurate information. In the case of true errors or inaccurate information occurring in the

context of the report, or where important clarification of information in the report seems especially pertinent, the options for the examiner that seem most prudent include (1) attach an amended page to the report and an additional memo of explanation; (2) mark through the incorrect portion of the report—e.g., do not white out or mark out, but, rather, simply put a line through the incorrect portion so that the original print can still be read; (3) produce a corrected version of the report and document that it is an updated version and the rationale for its production. The original version could be maintained with all other examinee records and produced upon request.

With regard to sharing the examination results with the examinee, as previously noted, existing ethical guidelines and recommendations, and legal statues in most states, are clearly proscriptive. Increasingly, signing an informed consent, noting the potential dangers associated with sharing the information or report directly with the examinee, is recommended as standard procedure. It is also recommended that examiners have a disclaimer at the end of a report reiterating in general terms the basis of the report and the opinions, as germane to the expert's qualifications and training, and the fact that all opinions are given with "medical probability," unless otherwise stipulated. It is also advised that examiners should include a statement noting that their conclusions are based, in part, on the assumption that the materials provided for review are true, correct, and complete, and that if more information becomes available at a later date, opinions are subject to change.

SUMMARY

As providers of medical information and testimony, clinicians have ultimate responsibility for ethical conduct as it relates to this information. The authors offer the following recommendations[13–15] for enhancing ethical relationships between expert clinicians and the courts.

1. Avoid or resist attorney efforts at enticement into joining the attorney-client team. Such compromises of scientific boundaries and ethical principles exist on a continuum ranging from standard attorney-client advocacy at the beginning of the expert consultation phase (e.g., promotional information at the forefront of retaining an expert, with either provision of selective or incomplete records or less than enthusiastic efforts to produce all records) and extending to completion of evaluation, when requests for changes in reports and documentation might be made.
2. Respect role boundaries and do not mix conflicting roles. Remember that the treating doctor possesses a bond with the patient but does not as a rule obtain complete preinjury and postinjury information in the context of assessing causality and apportionment. In contrast, the expert witness must conduct a thorough and multifaceted case analysis sans the physician-patient relationship in order to facilitate objectivity and allow optimum diagnostic formulations. Finally, the trial consultant's function in this adversarial process is to assist with critically scrutinizing and attacking positions of experts for the opposing side. These roles all represent inherently different interests, and mixing them can only reduce objectivity.
3. Insist on adequate time for thorough record review, evaluation, and report generation. Also insist on sufficient time and preparation for deposition and court appearances.

4. Work at building a reputation for general objectivity, reliance on multiple data sources, reaching opinions only after reviewing complete information from both sides, and completing the evaluation.
5. Spend a good amount of time actually treating the patient population being examined or being offered testimony about. This treatment should be current and should be of a similar frequency to treating practitioner specialists. Be able to discuss relevant research and scientific methodology issues competently and without notes.
6. Arrive at opinions only after reviewing all of the evidence from both sides of the adversarial fence, employing multiple data sources, completing the evaluation, and interpreting data within the full context of comprehensive historical, behavioral observation, and contextual information. Being otherwise favorable to retaining attorney interests suggests endorsement of "opinion prostitute," "scientific perjurer," or "hired gun" status. The only way a practitioner can reduce the likelihood of facing an "opinion prostitute" on the opposing side in future cases is to insist on establishing and maintaining a reputation for scientific objectivity.
7. Balance cases from plaintiff and defense attorneys. Predilection for one side or the other suggests bias and sets up predisposition to nonobjectivity. For example, a preponderance of plaintiff work suggests an overdiagnosis or uncritical sympathy bias, whereas a ratio that favors hiring by the defense suggests an underdiagnosis or skepticism bias. Perhaps Brodsky's suggested cut-off ratio of .8 for favorability findings would represent an initial cutoff for defense versus plaintiff ratio. That is, experts should do at least 20% work for the opposite side of the current case being represented. Further, it might be a reasonable expectation that data on these ratios be collected as an important method for ensuring objective opinions.
8. Ensure against excessive favorability to the side of the retaining attorney or firm. Objectivity demands that scientific opinions not be influenced by the position of the legal advocate. Importantly, Brodsky[9] recommends using a ratio of .8 as a cut-off for detecting excessive bias. That is, practitioners should possess prerequisite objectivity to disagree with the referring attorney at least 20% of the time. We suggest that a more useful cut-off would be .75, where experts are expected to generate findings that do not support the referring attorney's position at least 25% of the time.
9. Never arrive at opinions that are inconsistent with plaintiff records, examination data, test data, behavioral presentation, and so forth, especially when such opinions are favorable to the side of the retaining attorney firm. Instead, use the following recommendations.
10. Consider or mention, in reports and discussion, information not supportive of expressed opinions, including historical or behavioral observation information, examination and test findings, discrepancies between plaintiff's complaints and observed behavior and history, discrepancies between the severity of the injury and the severity of the reported symptoms, discrepancies between opinions and known occurrence rates (or base rates) in the general population, and opinions and logical arguments of experts from the other side of the case, presented fully and in an objective manner.
11. Strive to demonstrate objectivity by disputing the opinion of other experts only through a complete and deliberate, logical dispute of a full

and complete representation of the other expert's findings, inferential reasoning, and conclusions.

12. Always assess response bias and make efforts to guard against motivational threats to valid assessment.
13. Avoid cutting of corners, be thorough, and rely on standardized, validated, well-normed, and well-accepted procedures and tests.
14. Limit use of technicians and non-MDs or non-PhDs for evaluation and testing.
15. Intensively assess the client being evaluated; use only appropriate normative data for comparisons (e.g., persons of similar education or age; comparisons to medical patients versus psychiatric patients), who take into account the symptoms base rates (i.e., how frequently the symptoms occur in the general population and in the absence of the injury for which they are being evaluated), who consider the many other explanatory factors for symptoms (e.g., medications, sleep disturbance, depression, and so forth), and who adjust their interpretations according to medical conditions (e.g., inherent somatic complaints of progressive disorders like multiple sclerosis and Parkinson's and chronic pain), relevant situational variables (e.g., attention and other deficits correlated with chronic pain conditions, fatigue, insomnia/sleep deprivation), cultural factors (e.g., rural impoverished backgrounds), and so forth.
16. Attempt to devise and employ a formalized quality-assurance system that allows for monitoring and assessing (and improving) the validity and reliability of diagnostic and prognostic statements against real-world findings. A formalized peer-review system or similar mechanism that routinely allows for feedback from peers should be pursued.
17. Always prepare examinees by emphasizing the importance of accurate/honest performance with full effort on all interview questions, examination procedures, and tests (e.g., to produce valid and reliable profiles that permit comparison with known symptom patterns). Further emphasize the liabilities associated with exaggerating impairments (e.g., producing invalid profiles, lowering their credibility, suspicion of malingering of all symptoms).
18. Recognize the limitations of medical and psychologic data and opinions, and how, in clinical science and medicine, few findings and symptoms are black and white, clean, or attributable to a single event (e.g., Ockam's Razor, where it is assumed that a simpler explanation for a complex event can carry greater likelihood of truth).
19. Increase attention to issues relating to scientific methodology, objectivity, maintenance of scientific rigor.
20. Consider promoting increased awareness within the forensic professions of relevant issues relating to ethics and scientific objectivity. Promote utilization of objective data, such as Brodsky's[9] ratio, in regular clinical practice, and recommend adoption of similar standards by local, state, and national professional organizations. Reinforce those who collate such data. Provide relevant information, including opinions and observations about known experts, as well as copies of relevant information such as this article, to colleagues. Promote issues relevant to the legal use of medical and scientific evidence and testimony by encouraging courses in law school and programs offered by state bar associations and at annual trial lawyer and other association meetings.

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Physical Medicine and Rehabilitation Clinics of North America

The independent medical examination

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Defining characteristics of the IME

Purpose of an IME

The independent medical examination (IME) is a tool of dispute resolution, used when the disagreement between two or more parties contains one or more key issues of medical nature. The dispute may be narrow and specific, involving questions of causation, diagnosis, prognosis, or treatment options. The dispute may be wide-ranging, involving long-range care costs or querying fraud.

The role of the IME is to review and analyze, and in some instances update and expand, the existing evidence in order to provide guidance to the parties as to the strength of the medical opinions of the case. The IME report rates the information along a continuum from unfounded speculation through to certainty, for medical knowledge in general, and for the clinical findings in the particular case. The IME report should clearly, concisely, and comprehensively instruct the parties, with the intent that either the parties can find common ground for settlement or the triers of fact will be assisted in making an informed determination [1].

An IME can only fulfill a contributory role if the analysis of evidence and references to fact are logical, impartial, and appropriate. The examiner must fully understand and completely address all suitable questions asked—without regard to the implications of any opinion to either party—in order to assist meaningfully in dispute resolution.

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Relationship of physician to claimant and other parties

Perception is as important as reality in preserving respect for the IME. Central to this goal is the absence of obligation or a priori allegiance to any party, diagnosis, or intervention. An evaluation and report must be impartial, non-judgmental, and without advocacy or conflict of interest (COI). COI may involve direct or indirect socioeconomic considerations. The potential for perceived COI includes circumstances wherein a favorable opinion might have impact directly upon the physician, or indirectly, by extending some advantage to the physician's employers, employees, colleagues, family, or friends.

A potential for appearance of COI does not preclude the physician's providing an IME. However, there must be full disclosure to all parties in advance, and then the parties must agree to proceed. The main problem in most apparent COI situations arises from inadvertency, when incomplete disclosure permits the inference of intent to deceive.

Outcome must never influence opinion. The physician who provides an expert IME opinion must be prepared to accept the realities of litigation: it is inherent in medicolegal dispute resolution that an IME opinion may validate or advance one party's claim—especially if a proper claim had heretofore been inadequately articulated or supported. Often in such cases, if the same expertise had been available to the parties earlier, the dispute might never have arisen or could have been readily resolved. Further, as to repercussions, real-life medicolegal dispute outcomes are governed by a host of factors, including not only medical evidence and fairness but also insurance policy provisions, legal statute and precedent, litigious practices, and the unpredictability of triers of fact.

In performing an IME, given the strong potential for COI, there cannot be a coexisting physician–patient relationship (PPR) with the claimant. Of equal importance, many patients expect a PPR whenever they interact with any physician. As a corollary, they expect the physician to provide advice, care, and a supportive opinion. The claimant must receive adequate explanation of the nature of the IME, in advance of being asked to consent to proceed [2].

Clearly, the absence of a PPR in an IME does not reduce the obligation to treat the claimant, as with any other ill person, in an ethical and professional manner at all times. During an IME, the examiner may identify a medical problem that the attending physician might not be aware of. There is an ethical obligation to communicate this concern to the attending physician, in a fashion appropriate to the level of concern. The communication should be formal, timely, and on point, without any discussion of the medicolegal aspects of the case. A memo should be made, recording the details of any non-written communication (to whom, when, etc).

The purpose of an IME is to prepare and present an expert opinion to the requesting party. Unless required by legislation or prearranged, the examiner has no obligation to discuss the report with the claimant or anyone other

than the requesting party and should refrain from doing so. Office staff should be trained to explain to claimants that further communication is not permitted; the examiner will neither discuss how the opinion was arrived at nor make modifications on request. If the claimant or another party finds an error of fact in the report, or believes that clarification of the opinion is needed, then this concern should be communicated in written form to the referring party, to be passed on to the examiner. Once formally advised, the examiner should promptly, carefully, and fully address the concern.

The examiner should beware of entering into written or verbal discussion of the methodology, reasoning, or merits of the report with opposing counsel beyond mere clarification. Often, the request for such discussion represents a disguised attempt at pretrial cross-examination by opposing counsel.

During an IME, a physician may come to believe that an ill claimant is inadequately informed about his or her own medical condition and/or is not being well cared for. It is improper for the examiner to directly interfere, uninvited, with an existing PPR, other than in the most extraordinary of circumstances. The examiner may choose to convey serious concerns to the attending doctor directly. This should be in written form, entirely separate from the IME report. It may be appropriate to answer with candor a claimant's questions about normal or abnormal findings obtained during the IME. However, directly expressing one's diagnoses or quality of care concerns to the claimant is improper, other than by the most careful and circumspect of methods. An examiner may choose to describe to the claimant the conclusions of concern that the examiner intends to place within the subsequent report (eg, "I intend to put in my report that…").

Conduct of the claimant and others

The claimant can expect to be treated in a fully professional fashion that is sensitive to issues of language, ethnoculture, and related nature. However, when claimants insist on being escorted, out of fear of mistreatment, or wanting a witness to proceedings, or to assist with poor memory, the examiner is justified in resisting (except where legislation governs the matter). A written office protocol should be maintained concerning escorts. It might specify that a child under 16 years of age must be accompanied during an IME by a responsible adult, and that elderly, developmentally handicapped, or cognitively compromised persons should have a first-order relative with them. Claimants with previously demonstrated concerns over the impropriety of a physician in the past should be encouraged to have an escort for reassurance [3].

Only a professional translator should be used whenever communication is a problem. Inherent in the use of a non-professional translator is the potential for inaccurate communication. The examiner must be certain that questions were properly translated and that answers were faithfully related (eg, asked about past health problems, the claimant speaks for five minutes, and the friend then translates with one word: "none").

The physician and his or her staff must be treated with respect, free of any sense of personal danger from the claimant or any other party. This should be enforced with "zero tolerance" for threats, swearing, sexual comments, touching, etc.

The claimant must be informed that there is an obligation to provide maximum effort and full disclosure: that the examiner may comment in the report on misleading disclosures, on any failure to disclose potentially relevant information or to correct misconceptions, or on inconsistent or contradictory disclosures or poor effort on test responses. The claimant must be informed of his or her right to pause or stop the examination at any time if there is excessive stress or pain. The claimant has the right to know the basis for questions that seem to intrude unusually into private aspects of personal life or the lives of relatives or friends.

However, the examiner need not tolerate unreasonably long or tangential or abbreviated responses, or excessive demands to explore the reasons behind questions or to rephrase questions. The claimant must also expect that negative inferences may follow from excessively limited responses or from refusal to respond to reasonable questions after appropriate explanations are given (eg, asking about family health would not be unreasonably intrusive if the patient was claiming an occupational emotional stress disorder but had not disclosed that the father, who lived with them, was recently diagnosed with Alzheimer's) [4].

Faced with persistently inadequate compliance during an evaluation, an examiner should politely caution the claimant, clearly setting out the criteria for assessment termination (eg, You have refused to answer any questions about your past health, although I have explained that the answers are important to establishing cause. I will ask you my questions once again. If you are not prepared to provide this information, I will not be able to do a proper evaluation and I will stop the assessment.).

Scope of inquiry and service

The IME physician must carefully develop an understanding of the underlying medicolegal dispute, the legislated criteria, or policy definitions that govern the determination process, and the rules for report preparation and disclosure. For example, in some jurisdictions, it is obligatory to present copies of the report to the claimant, attending physician, and requesting insurer. In some jurisdictions, an IME for disability determination is not permitted to offer comments about treatment quality, future needs, appropriateness of costs, or prognosis. A court-ordered IME may contain certain conditions or restrictions for the claimant or the physician (eg, the court orders a physiatric examination of the orthopedic system but specifically prohibits a neurologic exam). The examiner should refuse any referral in which proposed restrictive conditions compromise professional integrity or work product quality [5].

Further recipients of the report

Years after the evaluation, the examiner may receive a request for a copy of the original report or for a meeting to discuss the case from a party to an unrelated or related dispute and/or litigation. The examiner should seek specific permission, ideally in writing, from the original referring/retaining party, prior to releasing any information, in any form.

Quality assurance

Comprehensiveness

The features that determine the quality of an IME include the appropriateness of the scope of inquiry, the depth of detail of both the clinical assessment and the evidence review, and the craftsmanship of the report. Many disputes over the acceptability of an IME turn on the extent to which it was properly conceived and thoroughly carried out. Since most medical problems are to some extent multifactorial in either origin or basis for persistence, it is clearly necessary to develop a proper breadth of appreciation of the person as a multidimensional entity living within the real-world context of family obligations; recreational, social, and volunteer activities; and vocational responsibilities. Similarly, a proper longitudinal perspective is needed for appreciation of premorbidity/comorbidity, which includes not only negative but also positive predispositions in meeting the challenges of ill-health and impairment.

Time spent and deadlines

A common challenge to the value of an IME is that the clinical assessment was too brief and thus inadequate to develop a proper appreciation of the claimant and his or her problems. This begs the question of how long one should spend in interview and examination. Contrary to lay expectations, there is no defined standard beyond peer or case comparison. Although it may seem to be a circular argument, the time required for a clinical assessment is the time required to complete all necessary interview and examination. To some extent, duration is case-specific, never absolute. On a relative scale, a potential yardstick is found in considering case complexity and claimant attributes, as well as examiner skills and experience. It is often surprising for the court to learn that an assessment for quadriplegia may require less time than that for a chronic pain syndrome.

The amount of time spent on conducting an IME should never depend upon unreasonably tight bookings or whether one is running late. It is the obligation of the IME physician to allocate the resources of time and effort necessary to perform all essential elements of assessment, so as to achieve a fully informed conclusion. The actual

start time, breaks, exam start, end time) should be carefully recorded against the possibility of later questions.

It is appropriate and even advisable to inform the claimant, in advance, when the history is likely to be more important than the examination, so that time spent will be apportioned accordingly. Also, it is useful to tell a claimant which body systems will be examined and generally how long the examination takes for the average person with a similar condition. The heightened stress of an evaluation usually leads to a misperception that less time passed than was actually the case. Claimants who believe that the evaluation was properly planned and carried out are less likely to question apparent brevity.

It is often helpful to end the assessment by asking the claimant about omissions or commissions: if there is any area of inquiry or any examination test which was not done, any new or worrisome testing, or any other concern about the assessment. Not only is this a good quality-control measure, but it also creates a basis for responding to any subsequent claimant challenge that the assessment was inadequate in time or scope.

Specific timelines and deadlines should be created and respected for the entire IME process. The history and physical examination should be written out or dictated within 48 hours to avoid recall decay; this is inevitable, especially when there are other cases interposed. Optimally, the complete report should be ready for final proofreading within 2 weeks, since there should still be fairly good case recall within that period. The final report should be released within 60 days of the assessment [6].

Knowledge

At intake, the physician must candidly question whether the referral is within his or her scope of expertise and should be accepted. The mere fact of having specialist certification does not make one an expert with respect to all conditions. A recently read article is not a substitute for the familiarity of experience.

One must consider whether an effective interview and examination can be done with that claimant, and whether the final report will be suppositional or firmly based in first-hand clinical knowledge. Always remember that these tests of judgment may be reviewed under circumstances of aggressive cross-examination.

Impartiality

It is normal for physicians to be drawn to certain polarities by virtue of their training, experience, and personality. This can lead to advocatorial feelings toward victims of certain conditions or to a concern over the predominance of societal rights. For example, an examiner with a special concern over the lack of societal recognition and support for head-injury

rehabilitation may have difficulty with suggesting malingered pretense in a claimant whose history is equivocal for head injury but whose presentation of cognitive impairment is dramatic. An examiner, having seen a large number of somatizing patients, may have difficulty giving credence to arguments over traumatic, organic cause in chronic pain claims.

There are two practical approaches that IME physicians should consider. The first is to recognize one's partiality and to refuse IME work involving pertinent medical conditions. The second is to declare one's bias at the outset, then ensure that the report contains a careful analysis of why any seemingly a priori conclusions are not merely reflective of bias.

For the physician there can be inadvertent perceptual distortion, with partiality, as encapsulated in the axiom: "For the carpenter, all is nails." The same symptoms may suggest differing diagnoses, depending upon the specialization and clinical experience of the doctor. For example, chronic fatigue may be considered post-viral (internist), a fibromyalgia equivalent (rheumatologist), or a depressive equivalent (psychiatrist).

Ethics

The IME requires a standard of ethics at least as high as that expected in daily medical practice. Malpractice claims aside, no other portion of a physician's practice will come under as aggressive scrutiny as the IME. Every word said by staff or doctor, every document sought and reviewed, every choice made and every test performed will be reviewed in an effort to find fault, thereby invalidating the report. One must be meticulous in ensuring that there is proper respect shown to the claimant and that a complete assessment is carried out, with careful documentation of the process [5].

Adherence to routine (level playing field)

Standardization of approach both ensures and demonstrates a lack of partiality. In a routine protocol, the same core questions are asked, and the same core tests are performed for all claimants with similar conditions. This neutralizes accusations of "trying to make the claimant look bad," or "controlling the outcome," by either commission or omission. As a corollary, this prevents inadvertent shortcuts, such as exempting certain claimants from tests of response bias to establish validity and reliability (eg, Waddell signs, documentary corroboration of history, etc).

In some cases, inadvertent bias is prevented by performing the clinical assessment in advance of any review of the medical file, other documentation, surveillance, etc. However, another examiner might well believe that, without being fully briefed, the IME will be inefficient, and important areas of inquiry might not be explored. It is important that each examiner design and adhere to an IME protocol that considers efficiency and bias. If one deviates from a protocol, this should be noted within the report, along with

reasons. For example: "It is my routine protocol to assess a claimant before reviewing the file, and to have no family or friend present during the assessment. Early on, it became apparent that the claimant was a vague and inconsistent historian, the complaints being illogical and developments chronologically implausible. I sent the claimant out for a coffee break, read through the key elements of the file, and then invited the claimant back. Her husband was invited to join us and to contribute fully."

Record keeping

The IME conclusions must be consistent to the evidence used, and the report's statements concerning interview and examination consistent to the clinical records made. The IME physician must not only be competent but also must appear so. The records of interview and examination should be detailed, indicating the scope of questions asked and the nature of answers given. A record that lacks notations about a certain test can attract the challenge that the test was not done or that the results were other than as reported. Should the notes indicate a response or test result that is not mentioned in the report, the examiner may be accused of purposeful "cover-up." As a guideline to note-making, use abbreviations carefully and consistently, and paraphrase or quote key responses [7].

A series of close-ended checklist questions ensures that key history is consistently explored. Responses must be noted. For example, if a checklist on health history is used, place a copy of the checklist in the file, and note each response, unless all items were answered with the same answer (eg, regarding orthopedic past health, including physiotherapy/chiropractic/orthopedic consults, NSAID treatment, spinal X-rays—all answered "no").

Under no circumstances should records be tampered with after the fact. An untouched record can be dramatic proof of the veracity of a claimant or the capability of the interviewer.

Preliminary phases of the IME

Screening of referrals

Before one formally accepts the assignment of independent medical examiner for a given case, it is important to determine if the case is appropriate. It is prudent to have one's staff carry out a routine intake screening. An intake form might require such information as the type of case, the questions being asked, and the time frames for completion, among other factors. It is generally preferable to have the IME clinician speak directly with the potential retaining party to ascertain the appropriateness of the referral, in the context of whether the work falls within his or her experience and domain of expertise. Additionally, and as appropriate, policies regarding report preparation, such as the potential paradigms for consultation (eg,

peer review, trial consultant, IME, treating physician), the absence of draft versions for retaining party review, and IME ethics should be discussed by the practitioner and the retaining party at this phase of the relationship.

Third-party contract

Once an assignment is accepted, then some type of letter and/or contractual agreement should be signed by the retaining party, obligating them to the policies and fee structure of the consulting examiner. Contractual agreements are a sound way to ensure not only that one gets paid for the work that one does (although such measures do not guarantee this) but also that one's ethical and medicolegal policies are specifically delineated.

Claimant orientation

When introducing oneself to a claimant, it is important to try to minimize any anxiety that may be present in the context of an independent medical examination. Clearly, depending upon the circumstances under which the claimant is present, motives with respect to effort and truthfulness may vary across a broad spectrum. When a claimant is present for a defense IME, he or she will tend to be anxious and guarded, with a propensity to ensure that the examiner understands his problem. In the context of a plaintiff IME, there will generally not be the level of guardedness and/or emotional stress that is present in a defense IME context; however, given the potential for secondary gain, there may still be issues of response bias that need to be addressed by the examining clinician [8].

It is important to encourage the claimant to provide the most accurate reporting possible, with the stipulation that your job as an independent medical examiner is to advocate only for the truth and not for any party involved in the issues at hand. One must convey that the best way to achieve this is to have the claimant provide the middle-of-the-road story, neither amplifying nor minimizing problems [9].

Clearly, it is important to make sure claimants understand the context in which they are being evaluated. An up-front review of who the referring party is and the purpose for the referral is critical in any IME. Additionally, examiners should note the absence of a PPR and the implications relative to the lack of any claimant–examiner confidentiality. It must be made clear to the claimant, up front, that the examiner is not there to provide direct clinical treatment recommendations, and that such recommendations, if made, would be conveyed directly to the retaining party [10].

It is important to provide information to the claimant that serves to not only protect the claimant but also the examiner, regarding the need for the claimant to inform the examiner should be there be any significant discomfort or pain during the exam. The claimant should be informed that, should he or she need to take breaks, owing to fatigue or pain interfering with performance, he or she should inform the examiner or one of the staff members.

Many examiners provide their claimants with a short introductory summary regarding the IME (or even an IME agreement) that stipulates some of the aforementioned matters. Once the initial phase of the IME is completed, the examiner should review, in summary fashion, the scope and content of the IME to be conducted. If the claimant is to have various assessments by different individuals, potentially at different sites, this should be made clear, up front. The order of the evaluative process—assuming it includes more than one clinician and/or evaluator—should be determined. Various testing formats should also be discussed (eg, written forms, computerized assessments versus functional capacity evaluation). The scope and detail, in terms of the examiner's direct contact time with the claimant, should also be reviewed.

Evaluation phase: interview

Interview structure and goals

Often much of what we need to learn from a clinical assessment is derived from how the history is presented [11]. That is, it may be as or more important to understand how the person has responded to the impairment than merely how the impairment was acquired and what is the extent of impairment. An effective interviewer utilizes observation and conversation. This approach is compatible with the axiom that non-verbal communication provides 75% of the information transferred between humans during any interaction.

As a corollary, it is essential that the IME physician hone his or her interview and observational skills. An initial interview goal is to ensure that effective communication will occur. Parameters requiring consideration include the emotional and cognitive state of the claimant, language skills, and any elements of interference, such as level of arousal, medication level, etc.

It is a proper subject of cross-examination to explore whether the answers given were provided under suitable conditions, thereby ensuring validity. A notation of the claimant's demeanor as alert, detailed, and decisive may be relevant when, for example, the claimant later asserts that she had inadvertently overmedicated after a bad night's sleep and had been unable to understand the questions or recall relevant information about prior ill-health.

If there is any doubt about the claimant's ability to understand and to respond in the same language as the practitioner, a professional translator must be used. Using a claimant's friend or relative as translator opens questions of capability to accurately and fully relate information. Also, a claimant may be inhibited in responding in the presence of a friend. Moreover, a relative or friend may wish to advocate by altering answers for effect.

Asking strictly open-ended questions creates potential for inadvertent errors or purposeful distortions. Using a thorough set of close-ended questions is apt to reduce the potential for error. For example: Q [open ended]: "Have you ever had a back problem?" Q [close ended]: "So, may I assume that you have never complained to your doctor about back pain or sciatica;

you have never visited a physiotherapist or chiropractor; you have never had back X-rays or a CAT scan or MRI; and you have never seen a specialist in orthopedics, physiatry, neurology, or rheumatology?"

Biography

Family structure

Most of life's stresses arise in the family domain. Typical questions involve marital status and information about spousal and children's health. In the case of separation or divorce, it can be important to ascertain the underlying reasons or continuing dispute, and timing of separation or final judgment. It can be important to learn the make-up of the domestic unit, which may include a live-in parent or a grandparent who is able to help or requires assistance.

Domestic circumstance

Basic questions involve the dwelling, including some details of the size and layout, required stairs, number of bedrooms, where the claimant sleeps, and extent of appliances (eg, furnace, dishwasher, etc). It is important to learn if the home has been or can be modified to accommodate to impairments. The history of residences is often relevant to appreciating whether and why moves (a stressful undertaking) were made after a trauma. For example, after developing chronic fatigue, a claimant would not likely decide to search for another, larger home.

Family health

Immediate family

It is critically important to establish that all members of the immediate family are well. The demands upon a claimant's physical and emotional health and time are directly affected. For example: The claimant's spouse has had a recent stroke and requires constant attention, including assistance with transfers and dressing, which could be relevant to the claimant's chronic orthopedic pain, depression, or claim of inability to return to work after a minor MVA.

Other dependants

Illness or infirmity in first-order relatives, such as parents, will usually generate significant stress in the family. For example, the need to take a relative who has been diagnosed with cancer to her doctors' offices or to chemotherapy treatment, and to assist with shopping and cleaning the home, may be very relevant. Occasionally, inappropriate reverse dependency will be discovered through this inquiry.

Genetic patterns

Many chronic health conditions have a genetic component, with overrepresentation in certain families. The expression of the condition may vary

in intensity. Suspect conditions may include substance abuse, diabetes, depression, obsessive-compulsive disorder, and fibromyalgia. The presence of a predisposing genetic risk factor may help to explain why the claimant has become ill. This does not reduce the importance of an unmasking provocation "but for" which the condition might not have emerged.

Pre-event history of health, education, work, military, incarceration

Past health

This inquiry requires meticulous, detailed exploration. Who is the current family physician? Who was the physician before the MVA? If there has been a change, when and why did it occur? Changes of physician may signify a desire to hide important health history by "starting fresh"; or doctor-shopping for better care, or for narcotics, or perhaps for more supportive reports.

Lack of full disclosure of the extent of health problems may signify volitional deception, lack of insight, or selective memory-blocking; not infrequently, patients idealize their past physical or emotional health, psychosocial, vocational, or economic circumstances [12]. As a corollary, the patient and the practitioner may set unrealistic and unattainable recovery goals, leading to extended interventions, prolonged litigation, and a frustrating perception of failure and chronicity. Notably, claimants who have recovered from depression may not accurately recall or appreciate the extent of their recent emotional illness and disability.

Education and work

Meticulous and detailed inquiry can help in developing an understanding of the strengths, weaknesses, and interests of a disabled claimant. Often, there is direct relevance to the potential for successful vocational rehabilitation. For example: A 25-year-old construction laborer suffers bilateral lower leg amputations. He was working on an MBA by correspondence, while supporting his elderly parents through unskilled construction work.

Other life experiences

Guided by chronology, it is necessary to develop a full and reasonably detailed review of significant components of the claimant's life, including military career and injuries or illnesses while serving. Inquiry into incarceration may be relevant to concurrence of stressful court activities and periods of unavailability for rehabilitation. It may be of benefit to learn of volunteer work, such as coaching, or of special service, such as foreign-aid work.

Interview: traumatic event and urgent-care history

Immediate background

It is valuable to briefly reiterate and confirm the understanding of the antecedent circumstances developed from the narrative preaccident history. The

examiner should be concerned about any incomplete confirmation from the claimant. For example: The claim concerns a disabling post-traumatic depression, following a minor MVA. The claimant described preaccident work as stable, full-time, and enjoyable; and health was excellent. Upon reiteration, the claimant was noted to be evasive about confirmation. To further questioning, the claimant disclosed that, at the time of the event, he was on compassionate leave to care for a parent whose advanced cancer required continual care in the claimant's home.

It can be of special value to complete this reiteration of the general situation by inquiring about the situation that day/week. For example: The claim involves a work lift injury with discogenic left sciatica, including loss of the Achilles tendon reflex. It is learned that the claimant had, early on the morning of the accident, undergone a medical exam for life insurance purposes, with the medical exam including reflexes. The exam record will be pivotal in establishing whether the absent reflex finding preceded the work accident.

Physics

Physicians are not physicists. It behooves the examiner to gain a useful appreciation of the nature of the precipitating event, but at the same time to recognize limitations of competence. All too often, doctors make their judgments on the basis of collision repair costs. There is cause for concern at either extreme: 1) being dismissive of claims of injury for a $50 repair and 2) being uncritically accepting of claims of injury with a $25,000 repair. However, occasionally, a vulnerable individual (eg, osteoporosis, elderly spine) may sustain fracture or cord contusion in a trivial collision. Equally, for many expensive European cars and for most motor homes or SUVs, even minor collisions can be very expensive to repair.

With experience, many examiners become proficient at considering general rules of automobile design and physics. A fuel truck weighing 50,000 kg and moving at 100 km per hour will not experience substantial deceleration when striking a glancing blow to a parked car. Also, cars are designed with an "energy cage" around the occupants, and with bumpers and crumple zones designed to extend the post-impact acceleration phase (Δt) and reduce acceleration by dissipating collision energies (Δv). Air bags can be protective in high-velocity collisions but sometimes deploy in minor collisions and may even cause death. Seat backs are designed to "fail" to protect occupants.

Beware of the physician who concludes that an accident "caused" a medical condition, when inadequate medical history and event details are ascertained, or when the extent of knowledge of collision physics required in the analysis exceeds his or her credentials.

Kinematics/biomechanics

Of even greater importance to the occupant, and thus to the examiner, is the effect of collision energy on the occupant. For example, research has

consistently shown that, during low-velocity collisions (LVC), there is no serious energy transfer, and tissue-injury thresholds are not reached. Volunteers subjected to collisions—in parallel to collision derby drivers—do not develop significant or prolonged injury symptoms. The kinematic study of the LVC demonstrates that the phenomenon of whiplash, with the head snapping back into hyperextension, does not occur; instead the body and head ramp up the seat back, without substantial flexion or extension. In parallel, high-velocity kinematic video and simulated-motion studies have shown deformations of the human body—which predict injury—that were not anticipated from earlier theories.

The examiner must ask about body motion but must also avoid placing excessive reliance on anecdote. The examiner must develop an adequate awareness of the available scientific knowledge and must use indirect information, such as seat belt-bruise pattern or ambulance records. For example, in minor rear collisions, the occupant's knees typically do not move forward into the dashboard, and the head is not markedly accelerated, so claims such as dashboard knee syndrome or loss of consciousness require careful consideration.

Pathology

Ultimately, all anecdotal recountings and hypothecations require correlation to the clinical features. The analysis of physics and biomechanics must serve to explain the objectively demonstrated injuries. Just as an "abnormal" spinal MRI is irrelevant in the context of an asymptomatic and objectively normal patient, a forceful collision which causes occupant ejection is not incompatible with an individual "walking away without a scratch." Also, even in minor collision circumstances, a few patients may sustain catastrophic injury. The examiner works "backwards" from the clinical pathology, seeking explanation in the physics and biomechanics. Some physicians and lawyers work "forwards," developing an expectation of serious injury from their reactions to some aspect of the collision event, such as collision damage. This must be decried. Moreover, such faulty logic will be suggestive, creating expectation in some patients that, given the forces involved, they must have been injured, even though there is no evidence of injury. Adverse consequences—all too often seen—include iatrogenic injury neurosis (akin in mechanism to mass hysteria).

Immediate care—ambulance and emergency room, GP, and dentist

Proper appreciation of the plausible long-term consequences of a traumatic event begins with meticulous assemblage and careful review of clinical information about the acute sequelae, which, in the main, are rapid in onset and objectively most dramatic early on. Many inappropriate claims of severe long-term impairments do not survive careful scrutiny of the evidence about an event's physics and biomechanics, especially when there is good correlation to initial clinical records. The opposite can be equally true.

Interview: postevent history and sequelae

Background information should be acquired regarding the postinjury and/or illness recovery course, with respect to changes germane to impairment and disability, as well as handicap. As possible, the examiner should try to determine what medications the claimant has been treated with over this healing phase, as well as the specific duration of treatment and dosage of medication. The latter factors are important in determining whether an individual has received adequate courses of medication to optimize the therapeutic clinical response for the injury-related problems. A review of diagnostic testing during this time period is also relevant to understanding the pathologic, as well as physiologic, basis for reported and observed impairment and disability. Historical factors dealing with current and projected treatment should be delved into, as they are relevant for understanding an individual's current clinical and functional status. The examiner should request of the claimant details regarding functional abilities and limitations related to activities of daily living (ADL), mobility skills, communication abilities, bowel and bladder function, sexual function, cognitive and behavioral function, driving, as well as avocational and vocational activities.

Potential secondary gain issues (including litigation/workers' compensation) should be explored, as these may be relevant to potential response bias on the part of the claimant [13]. Incentives for return to work, as well as disincentives, should also be part of a more detailed interview process. Individuals who have strong incentives to work may minimize impairment and/or disability through "simulation" of good function (fake good). On the other hand, individuals with disincentives—financial or otherwise—for returning to work may dissimulate (fake bad) in an effort to avoid work and/or earn higher financial rewards [14].

One of the authors (Zasler) regularly asks claimants how much they feel their case is worth. The question is asked (to the general chagrin of lawyers) to establish some sense of the particular individual's focus on litigation, and whether the claimant has realistic expectations of the litigation process. Understanding what an individual perceives he has to gain through litigation, in terms of both quality and quantity (the latter in a financial sense), may provide insight into other behaviors noted in the historical review of a case and/or within the confines of the independent medical examination process.

The other author (Ameis) takes a related approach, asking the claimant to describe in specific detail how proceeds of litigation will be utilized to improve the claimant's quality of life. Often, this provides insight into knowledge of illness, practicality of expectations, and extent of ADL difficulties. A wide gulf separates the self-gratifiers from those focused on restoring independence. In the former example, one might hear a claimant speak of treating himself to massage therapy, and of buying a big house and fancy car to compensate himself for pain and suffering. The expectation for settlement is large but non-specific. In the latter example, there may be discussion

of hiring a private trainer to facilitate a higher level of fitness for independence, of remodeling to outfit a fitness room at home, and of buying a large car to give a greater sense of security when driving. The expectation for settlement may be larger but tends to be carefully thought out and itemized.

It is important to understand how well educated a claimant has become regarding his diagnosis and treatment, through reviewing educational materials from treating physicians or other individuals, including advocacy organizations, or through his own efforts at self-education regarding his disease and/or condition. Many patients/claimants now go to the Internet as their primary source of information and have a plethora of information as a result of "computer consultation." Some of the information may be helpful to some patients; however, it can also misinform, create unwarranted fears, or promote disability in a litigious or emotionally vulnerable claimant.

The examiner should have a full understanding of the specifics of the rehabilitation efforts that have taken place during the claimant's postillness/postinjury treatment. Among the most important areas to explore is what adaptational and/or compensatory strategies the claimant has put into use as a result of the rehabilitation process and/or through self-taught strategies. When assessing these issues, it is fairly crucial to determine the claimant's compliance with the recommended treatment, and the utility and energy efficiency of the particular strategies being utilized.

Evaluation phase: examination

A thorough IME includes a detailed assessment of the body systems that are reportedly primarily involved in the illness/injury-related impairment and/or disability, in addition to a general screening examination. In the context of a physiatric IME, the systems that are most frequently involved are the musculoskeletal and neurological systems. When there are both neurologic and musculoskeletal issues, the duration of the examination is inherently longer. The complexity of the assessment must be taken into consideration when scheduling the IME [15].

Many clinicians feel it is important to get baseline information from the claimant through the use of questionnaires and/or other test batteries (eg, computerized testing), which may include assessments for pain, psychoemotional status, and/or general functional status. Clearly, when collecting data—whether by questionnaires, computerized testing, or direct physical exam—the examiner should always look for response consistency, and utilize measures of claimant effort. Just as critical, examiners must be familiar with and utilize test methodologies that have documented validity and reliability [16].

What determines an adequate assessment is certainly open to opinion, depending upon the type of patient being evaluated. As an example, many people would argue that a standard Mini-Mental State Exam is an inadequate tool for assessing mental status in someone with a history of mild

traumatic brain injury. Similarly, the presence or absence of pain on sacroiliac joint provocative maneuvers may not be a particularly valid methodology for determining the presence or absence of SI joint dysfunction/pathology. However, there is little disagreement within the neuro-orthopedic specialty community that a proper evaluation for a claim of sciatica includes bilateral assessments of leg sensation, girth, power, and reflexes, and straight leg raises, in both cued and non-cued manner.

Documentation review phase

Converting an assessment into an evaluation

A comprehensive medicolegal *evaluation* is the end point of a relatively long process. The examiner must combine the clinical assessment (consisting of an interview and a physical examination) with a thorough review of documentation, and the report must provide conclusions that comprehensively consider all of this information and factor in one's training, experience, and literature. All questions asked must be addressed.

No evaluation is complete without a careful review of relevant documentation. The reviewer will develop an appreciation of the findings, conclusions, and views of caregivers and other examiners. There may be important differences among several caregivers in the histories taken, findings made, or conclusions derived. There may be agreement or discord to the examiner's own record of claimant narrative history or physical examination. Since medicine is an art as well as a science, there will always be areas of reasonable difference of opinion between clinicians. However, there should not be any significant discrepancy in physical findings or in core narrative history.

The indexed brief

The review of documentation is a phase of inquiry that uses as its starting point the material provided by the referring party. The examiner must insist that the material be indexed by the referring party, and must verify that there is a precise match of documents to the index. As a complication of failing to carry out this basic correlation, consider the consequences of reviewing an incomplete brief. The referring party (and other reviewers) may assume that your opinion was based on the full set of materials described in the index, including material that you did not in fact receive for review!

Timing

The evaluator must either follow a fixed protocol or make a case-specific decision as to when the documentation should be reviewed. Prereading of records of treating practitioners and lab tests may facilitate the interview. Reports from other independent evaluators may contain hearsay or strong

opinion that could bias the examiner before the initial interview. Conversely, this material might contain examination findings and observations of behavior relevant to the current physical examination.

Having advance knowledge of the claimant's statements to others, it may be of benefit to revisit some discordant or confusing statements with the claimant, either during the interview or in a supplementary interview after the physical examination.

Comprehensiveness of the provided brief

In addition to ensuring that the documentation provided matches the referring party's index, the examiner must critically appraise the material's completeness. It is not uncommon for the referring party to be selective in the disclosure process. This may innocently arise from the intent to keep the brief's size readable or pertinent, but laypersons may not appreciate the relevance of some material. The examiner is the ultimate judge of the relevance of any component of the medical database. Unfortunately, some referring parties are more deliberate, seeking to influence the opinion of the evaluator through a careful selection of disclosures. The evaluator must always define the scope of material as either preferable or necessary. This scope must be outlined within the report, and the evaluator must indicate whether the current brief is sufficient to permit completion of the documentation review process. The evaluator must be prepared to decline to complete the report if critically important material is not made available.

Supplementation by adding existing undisclosed documentation

In "requesting" supplementation by material that is *desirable* or *preferable*, there is a direct implication that the contents are not critical to the completion of a report that includes a fully informed conclusion that can be stated and defended without reservations. On the other hand, a request for material which is *essential* and thus *required* signifies that it must be obtained and that, if not obtained, then a conclusion may not be fully informed and cannot be stated without reservations. The report cannot be completed. A necessary corollary is that once the evaluator takes the position that certain further material is essential and required, the evaluator must not complete the report unless and until there is adequate compliance.

Clinical data creation

It is not uncommon for the evaluator to discover that deficiencies in the database arise from lack of caregiver completion of planned testing or of treatment trial, or from lack of appropriate caregiver expertise or suitable tests or treatment. Again, the criteria to be applied involve either desirability or requirement. Is further consultation, investigation, or therapeutic intervention essential? For example: A claim of disabling, idiopathic, chronic

fatigue syndrome centers on refractory symptoms of severe sleep fragmentation and deprivation, with profound daytime hypersomnolence. However, no sleep laboratory study has ever been done and no sleep specialist has been consulted. In compliance with the requirement of the evaluator, a sleep study is done, a remediable obstructive sleep apnea is discovered, and with appropriate treatment, the fatigue and disability are substantially resolved.

Surveillance

Equivalent to "an FAE in the wild," surveillance is yet another clinical tool. It is unprofessional for an evaluator to decline to review surveillance or to review only portions. Investigator narratives must never be used without direct access to the actual video. True, much surveillance information is irrelevant, but only the evaluator can assess the clinical significance within the context of what the history and physical examination predict the level of activity to be. For example: After a horrific MVA, the claimant is said to have sciatica, PTSD, chronic headache, photophobia, and chronic pain leading to full work disability, with enormous economic hardship. On surveillance, the claimant is seen limping and carrying only small parcels, with apparent difficulty. The extent of effect of the sciatica is confirmed. However, the claimant is driving a new, expensive convertible; she is filmed driving on several sunny days with the top down, for long periods, and in aggressive fashion. Subsequent inquiry discovers that, despite continuing physical impairments, the claimant has not disclosed to the insurer that she has a high-paying job and has told her psychiatrist that she has recovered.

There are two schools of thought on timing of surveillance review. Screening before the assessment may engender bias, by virtue of the implication that surveillance is only done on the guilty. Also, it may be a waste of time if the reviewer does not know what activities might be relevant. On the other hand, review immediately after the assessment is efficient: the facts are freshly in mind and contradictions between either the claim or the presentation and the video will be easily discerned.

The issue of bias is obviated if the protocol calls for a completion of the evaluation report, including a statement of conclusions, prior to any video review. However, waiting to watch the video after the assessment may preclude asking the claimant questions that might lead to clarification and reconciliation of the contents of the video. Some evaluators will invite the claimant to review the video, in order to obtain an explanation from the person directly. In some jurisdictions this is a requirement if the surveillance contents are to be referred to in the report and used in the development of final opinions.

Requesting special documentation

The following special documentation may be helpful or even essential to developing a fully informed opinion. The evaluator should not hesitate to request or demand this information when indicated.

1. Driver's licenses, driving records, and renewal form declarations (eg, in a claim of PTSD, there should be no record of citations for speeding, reckless driving, etc)
2. School records (eg, premorbid intelligence tests or records of behavioral problems may be pertinent to assessing head injury sequelae)
3. Employment attendance and performance records
4. Employment health records
5. Refugee records—declarations/medicals (eg, for a recent immigrant, this may be the only available premorbid medical history)
6. Pharmacy records (eg, quite often, patients do not recall or accurately report their medication names, dosages, durations, prescriber sources, and actual consumption levels)
7. Life/disability insurance—application declaration/medicals (eg, the date of onset of a change in health may not be reflected in a family doctor's records when there is infrequent attendance; however, a medical examination for life insurance may provide a reference date when good health prevailed)
8. Preemployment screening—declarations/medicals
9. Military medical records
10. WCB and LTD claim records
11. Unrelated civil litigation—medicolegal records and reports (eg, a claimant asserts that all sequelae from a prior MVA had resolved just before the next MVA; however, reports required for the prior litigation, and developed from medical exams just before the next MVA, indicate a state of severity and chronicity)

Report preparation

There is often debate about how detailed an IME report should be. It appears that the majority of the requesting parties are most interested in the "meat" of the report, which tends to be the last few pages involving impressions and recommendations, causality and apportionment conclusions, diagnoses, and medical and vocational prognoses. It is critical in delineating impressions to differentiate facts from conclusions or professional opinions. Within the latter domains, one should differentiate statements made with medical probability (greater than 50% chance) versus possibility (less than 50% chance). Ideally, examiners should differentiate among impairment, disability, and handicap in the context of providing their forensic opinions [4]. Oftentimes, examiners are requested to rate impairment, which can be done in several ways, although the "gold standard" has become the *Guides to the Evaluation of Permanent Impairment*, published by the American Medical Association [17].

Most examiners will provide and discuss opinions germane to "causality and apportionment": terms each and every examiner should be intimately familiar with in the medicolegal context. If an impairment is causally related but not fully apportionable to a given injury or disease, then the examiner is obligated to stipulate this fact in his report.

Typically, examiners will also include opinions on maximum medical improvement (MMI), as related to the major impairments being assessed [18]. Other important areas for consideration include comments regarding prognosis, including ability to return to gainful/competitive employment, and life expectancy, the latter particularly in catastrophic injury cases.

Practitioners should be aware of the role of the IME and its limitations in making determinations of return-to-work capacity, including implications of functional capacity evaluations (FCEs) [19].

One has the option of dividing impressions into injury-related/noninjury-related versus questionably injury-related categorizations. Different examiners have different means of expressing their general opinions. As there is a need to expound on specific issues germane to the case, one can always include an additional "general comments" section in the report. If there were specific questions asked by the retaining party, these should be answered in as specific a manner as possible.

Some examiners endorse the idea of having a signature on any text page that includes conclusions or opinions, to avoid pages being substituted or altered. Although there are numerous ways to streamline report production, using such items as macros, boilerplates, and templates, a report that is too mechanized can lead to "not seeing the forest for the trees," and therefore should be avoided.

Testimony

Answering the questions asked

Physicians called to depositions, arbitrations, or court should have no fear of the process. The legal system requires the assistance of the medical practitioner, and usually this is reflected in the doctor being treated with respect and consideration. Most exceptions to this circumstance are brought about by the physician's lack of insight into the process or tendency towards advocacy, inflexibility, or argumentativeness.

The first rule of effective witnessing is to listen closely to each question asked and then to follow this with a moment of reflection in which a concise, clear, and specific answer is formulated. Answer the question asked. Do not allow counsel to cut you off if you have not finished your answer (if your answer is on point). As an advisor to the court, you should not shape your answer toward either "side." Do not argue. You know what you know.

It is important that you prepare yourself before court. Read your notes and reports thoroughly. Ensure your knowledge of pertinent literature is up-to-date. If you have commented on the reports of others, ensure that you are fully reacquainted with these reports.

Do not guess. Do not speculate without indicating that that is what you are doing. You should indicate when you are uncertain of the correct

answer. When asked to comment on hypothetical issues, emphasize that your answer addresses only this specific hypothetical instance. Decline to deal with the hypothetical if you feel too uncertain.

Do not make jokes. Do not allow yourself to get angry at silly, plodding questioning. Do not offer answers that you do not believe in, merely to facilitate ending your appearance [20].

Dealing with cross-examination

A central purpose of the cross-examination is to test your certainty, your knowledge, and your experience. Your opinion may be the main obstacle to one party gaining compensation or to the other party's avoidance of paying compensation. Not surprisingly, the cross-examination will have as its purpose the discrediting of your opinion. The attack must be on what you have said or on who you are. Either your opinion is wrong or else you are someone to whom the triers of fact should give little weight.

Cross-examination will attempt to show that your opinion lacks factual basis, relies on inferior sources, or is overly subjective. An attempt may be made to have you lose your temper, or to become confused, or to otherwise lose your image as a professional. Listen carefully to all questions. Think through your answers, taking as much time as you need. Do not allow yourself to be rushed. Never answer overly complex or confusing questions. Restate the question at the outset of your answer, to make it clear that this is what you understand the question to be and that this is what you are addressing. Do not volunteer information. Keep answers simple whenever possible.

Avoiding advocacy

The single most important error made by physicians is feeling an obligation to a party and attempting to argue for that party's position. The court looks to you for serious, impartial, expert information. The court expects you to be flexible in the face of new information about predicate assumptions, and candid about differences of opinion over diagnoses, caregiving, investigation, and prognostication. Medicine is an art, as well as a science. There are many reasons for colleagues to disagree about the interpretation of seemingly identical evidence. Do not attack your colleagues' professionalism, but do critique their work when you disagree with it.

Understanding objections

Counsel may pose a question, during examination or cross-examination, which is factually incorrect, leading, or otherwise improper. When an objection is raised by opposing counsel, it is being addressed to the judge. Do not say another word, pending the two sides presenting their points of view and the judge then ruling. Listen carefully and follow the judge's instructions

fully. Under special circumstances, you may object to a question directly to the judge. You must then be governed by the judge's response. For example: Under cross-examination, an attending physiatrist was asked to state the anticipated mean lifespan of the quadriplegic claimant, who was in the courtroom. The physiatrist turned to the judge and objected to answering the question in the presence of the claimant, being apprehensive of worsening an already severe depression. The judge agreed and asked the claimant to wait outside.

Finishing your response

Cross-examining counsel may ask a question that leads you to provide an answer that counsel did not anticipate and does not want the jury to hear. Counsel may cut you off by a dismissive comment or by asking another question before you are finished with your response. Be patient and calm, and continue with your response. If necessary, inform the judge that you do not feel you have completed your response. The judge will usually instruct counsel to permit you to finish.

Explaining and substantiating your opinions

The triers of fact depend upon you to teach them what they need to know about the underlying science and technical jargon of your field. Speak slowly, spell each technical term, explain all technical terms, but also avoid their use as much as possible.

The triers of fact need to know if your opinions are derived from your education, your experience, or the literature. Concerning the latter, explain why you favor one study or approach, and also what contrary opinions exist and what concerns you have about them.

Admit to uncertainty. Explain if you are prone to give the benefit of the doubt in one direction, or else state what is more probable. (In legal terms, probability is a likelihood of 51% or better.)

Handling redirect

Examination in chief is followed by cross-examination. Should you be asked unfair questions that could create a misleading impression with the triers of fact, the counsel who called you can ask you a few follow-up clarifying questions during redirect, which follows cross-examination.

Listen very carefully to each question and answer as specifically as possible. Example: Q (in cross-examination): "Doctor, you wrote that my client might be engaging in malingered pretense. Isn't it a fact that you use this term in every medicolegal report you write?"

A: "Yes."

Q (in redirect): "Doctor, why do you use the term 'malingered pretense' in your reports?"

A: "Many of the claimants I see in IME develop chronic pain after minor accidents. Malingered pretense is part of the differential diagnosis. In my reports, I discuss the merits and limitations of each of the major diagnostic possibilities."

Caveats

The examiner must ascertain, as early as possible in a potential medicolegal consultation and/or IME assessment, whether one has a conflict of interest with the parties involved. These parties may include the insurance company, the workers' compensation payer, the lawyers, or the claimant (and family members). If there is a conflict of interest, then the most ethical thing to do at that point would be to offer to withdraw from participation in the case, with any further service subject to the consensus wishes of all concerned parties.

Most examiners, and particularly those certified through the American Board of Independent Medical Examiners, would argue that it is unethical to provide testimony regarding a specific claimant's impairments and disabilities if one has not had an opportunity to directly evaluate the individual in question. Obviously, there are circumstances in which a focused opinion about standard of care may be ethically provided without actually conducting an independent medical examination. Another example in which an exam may be a moot issue is in a wrongful-death case, where the claimant is obviously not available for examination.

Generally, one should avoid being directly critical of other professionals' work and/or qualifications, as related to the potential for slander and other negative legal ramifications. All comments, aside from testimony and opinions provided in the context of assessment of a malpractice issue, should be made in as constructive and non-pejorative a way as possible.

As possible, one should consider having a "hold harmless" clause in one's contractual agreement, relative to the opinions provided within the context of the IME report. Generally, at the end of the report, one should include a set of disclaimers, ensuring that one's potential liability is as fully covered as possible. An example of a template for such as a disclaimer is as follows:

> Any comments on appropriateness of care are professional opinions, based upon the specifics of the case, and should not be generalized nor necessarily be considered supportive or critical of the involved providers or disciplines. Any medical recommendations offered are provided as guidance and not as medical orders. I always request that the claimant's treating physician receive a copy of my IME report. I am also willing to discuss my opinions with the claimant's treating doctors, with permission from the retaining party. The opinions expressed do not constitute a recommendation that specific claims or administrative action be made or enforced.
>
> Medicine is both an art and á science, and although an individual may appear to be fit for work activity, there is no guarantee that the person will

> follow the processes established in appropriate formal documents such as the Americans with Disabilities Act, Title I. The opinions on work capacity are to facilitate job placement and do not necessarily reflect an in-depth, direct-threat analysis.
>
> This independent medical evaluation is based upon the available history provided by the claimant during the IME of said date, and medical record review. This examiner's expertise as a —— [ie, board certified physiatrist, Fellow of the American Academy of Physical Medicine and Rehabilitation, etc] was also contributory to the opinions generated in this case. I am a physician duly licensed to practice medicine in the [state/province] of ——. All opinions are based upon a reasonable degree of medical probability, unless otherwise stated. If further information is required, please contact the undersigned.
>
> The opinions rendered in this case are the opinions of this evaluator, based on his training, experience, and expertise in the field of [ie, physiatry (physical medicine and rehabilitation)]. Please refer to attached CV in Appendix 1. The conclusions of this report are based, in part, on the assumption that the materials provided for review are true and correct. I declare that the information contained within this document was prepared by this examiner and is true, to the best of my knowledge, at the time of issuance of this report. If more information becomes available at a later date, opinions are subject to change. I am being reimbursed on a fee-for-service basis, at the rate of $—/hr for my time in this case, as per my contractual agreement, which is also enclosed as an appendix.

There are significant debates about the potential downsides of having individuals other than the claimant present to observe the independent medical examination. Family members, lawyers, friends, or other third-party observers, such as a nurse case manager, may be among those expecting to be present. Many states have passed laws that prohibit the exclusion of such interested/invested parties from observing the IME process. In contrast, while in many jurisdictions there are no requirements or guidelines, in others the presence of observers is placed entirely at the discretion of the examiner, by judicial decision, or medical regulatory body guideline. The downside of the presence of such individuals is that it may alter the behavior of the claimant and/or the examiner in a manner that is counterproductive to the evaluation process [21].

In common with most independent medical examiners it is our belief that release of a draft version of an IME report for external review/feedback/revision by the referring party is not ethical. The examiner must scrupulously avoid even the appearance of compromised independence. If there are factual errors in the report, then a corrected copy can be submitted, with the original being kept on file. If there are updates with regard to information germane to the report and the examiner's opinions, a supplemental statement can be submitted.

As an examiner, it is important to be aware of the current guidelines and literature in the field of impairment and disability assessment, worker's

compensation, and social security disability determination, as these may be applicable to the evaluations that one is asked to perform [11,14,15,22].

Business aspects of the IME

No one particularly likes to discuss the business of IMEs. However, good business acumen promotes success in any physiatric practice. Being adept at the business end of medicine can be as important as being skilled in the clinical one, to ensure an efficiently stress-free provision of services.

Reasonable fees for physiatric medicolegal consultation probably range from $300 to $600 per hour, although there is clearly geographic variability in these charges. Charges should be fixed, based on the amount of time one spends on the process and not on different rates for specific activities. That is, there should not be different rates for reviewing records, evaluating the claimant, appearing for deposition, and going to court. Travel time should be billed at the same rate as any other time spent in a consultative context.

One should strongly consider having a contract for all consulting/IME work. The contract should stipulate the specific policy on charges for all aspects of work, including travel/waiting time, deposition time, and courtroom testimony. This should encompass any work outside of direct patient care. Generally, one is better protected, legally speaking, if there exists a contract signed by the party requesting the services, with the name of the claimant noted. The contract for a plaintiff IME should not be signed by the claimant but by the retaining party (ie, lawyer or work compensation carrier).

A retainer should be requested for a specified number of hours on all IMEs (eg, the first 3 to 5 hours). This retainer should be a minimum fee; however, money should be returned if it is not all used. The retainer is a measure of the good faith of the retaining party, and it guarantees minimal payment for that amount of time, as IME clinicians have occasionally been "stiffed" on their bills, even with good contracts in hand.

Invoices should be billed on at least a 30- to 45-day cycle, and contractual stipulations should specify late charges if bills are not paid within a reasonable time after receipt. It is important to stipulate cancellation polices in the context of IMEs, as well as deposition and courtroom testimony, in the agreement letter and/or contract. One might consider having an administrative fee for staff time spent organizing the chart, coordinating depositions, and requesting and copying records, among other activities. Fees for independent medical examination work should never be discounted for high-volume users and certainly should never be set on a contingency basis.

If there are problems getting paid, a staff member should call to inquire about the status of overdue bills. After three calls by staff and no payment, the examiner should call and talk directly with the party responsible for requesting the examiner's involvement, or his/her supervisor. Failing that, a letter should be written to state that no payment on the account has been [illegible] that the account will be turned over to a collection attorney, as

necessary. The retention letter and contract should be enclosed, and the letter should note that a copy is being sent to the examiner's attorney. If the retaining party is an attorney and no payment has been received after the aforementioned efforts have been made, a follow-up letter should state that the attorney will be reported to the state bar association for default on the agreement. This potential "black mark" generally prompts expedient payment. In lieu of sending the letter to the state bar association, a lawsuit may be filed, to recoup damages and unpaid debt. There is also the option of declaring the uncollected money as a business loss. (In most cases, it is more cost- and time-efficient to take the loss.)

Qualifications

The best IME clinicians are made through working in the trenches, not just by having multiple letters (certifications) after their name. Nonetheless, examiners who are well qualified based on training and certification probably are in a better position to acquire referrals than those who do not have extensive training and certification in the area of impairment and disability evaluation.

Training opportunities abound now in the area of disability evaluation, as well as impairment rating. There are numerous organizations in the United States and Canada as well as internationally that address the training needs of impairment and disability evaluators. Many of these organizations are relatively "lightweight," in terms of the requirements to become certified. Others, such as the American Board of Independent Medical Examiners, the American Academy of Disability Evaluating Physicians, and the Canadian Society of Medical Evaluation have more stringent criteria for membership and certification. As one attends training courses, it definitely becomes apparent that there is an art, as well as a science, to performing independent medical examinations. Much of the knowledge garnered in these types of training programs will be about the nuances of impairment and disability assessment, as well as various medicolegal components that are inherent in performing "bulletproof" IMEs. Certainly, as training can be provided in the context of continuing medical education (CME), this is preferable; however, not all of the courses being offered necessarily have CME accreditation.

Conclusion

IMEs can provide a skilled practitioner with an intellectually stimulating change of pace from the traditional activities of medicine, as well as, potentially, a reprieve from the limitations of "managed care" reimbursement. To adequately pursue IMEs, clinicians must understand the nuances associated with the medicolegal, ethical, and business aspects of such an endeavor. Knowing one's strengths and limitations as a practitioner is

paramount to good IME practice. Most importantly, the pursuit of truth, in the context of ethical practice, clinical thoroughness, and medicolegal neutrality, must prevail when performing IMEs.

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1047
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Guest Editorial

The Independent Medical Examination: Purpose and Process

by Sridhar V. Vasudevan, MD, and David L. Drury, MD, MPH

Introduction

Physicians who provide care to injured workers, at times, will encounter situations in which patients are asked to submit themselves for an "Independent Medical Examination" (IME). The result of such an examination may be contrary to the opinion(s) of the treating physician, subsequently leading to confusion and frustration for the injured worker as well as the treating physician. Understanding the purpose and process of IMEs will assist the treating physician in handling these adversarial situations constructively. In those less common situations where the IME has similar conclusions as the treating physician, the treating physician should pause and savor the uplifting experience.

The IME: Purpose and Process

Independent Medical Examinations (IMEs) are examinations performed by a physician who is not involved in the patient's care for the purpose of clarifying medical and job-related issues.[1] The Worker's Compensation insurance carrier or self-insured employer (insurer) has a legal right to request an IME. A survey by Alliance of American Insurers found 100% of the Worker's Compensation insurers use IMEs.[2] Although most requests for IMEs come from the insurer, requests may also come from the patient's attorney, the employer's attorney, the patient's treating physician and the Wisconsin Worker's Compensation Division (Division).

Wisconsin Worker's Compensation administrative rules allow the Division to request an IME called a "medical tiebreaker exam." A medical tiebreaker exam can be requested by the Division prior to a formal hearing only if an insurer concedes liability for the injury, but suspends benefits or refuses to pay for further medical treatment because physicians disagree about at least one of the following issues:

1) the extent of an injured employee's temporary disability;
2) the end of an employee's healing period;
3) an employee's ability to return to work at suitable available employment; and
4) the necessity for further treatment or for a particular type of treatment.[3]

The medical tiebreaker exam has been used successfully over the past two years in Wisconsin as an alternative to a formal hearing with an administrative law judge. After a formal hearing, the Division also has broader authority to order a medical tiebreaker exam on the cause or extent of disability, including permanent disability.[4]

IMEs typically are requested by insurers to address causation. If the IME determines that the patient's medical condition is not work-related, the insurer can deny the claim and not make payment. It is important to understand that an insurer must have a physician's medical opinion prior to denying a claim. Insurers and employers do not relish having to pay medical benefits for non-work-related problems. An IME provides recourse for the insurer in those situations involving questionable claims. These claims often arise when the treating physician does not provide adequate medical documentation to substantiate work-relatedness.

At times, insurers can become overzealous in their drive to deny worker's compensation claims. Since the insurer selects the physician to accomplish the IME and pays the physician a respectable amount for the service, there is indeed potential bias favoring the carrier. An extreme example of bias favoring the carrier is when the physician performing the IME finds all medical conditions to be non-work-related. This is very frustrating for the treating

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physician and the injured worker. The treating physician must recognize when the insurer has a strong or a weak case in denying claim. Consulting with a physician who has expertise in worker's compensation issues can assist the treating physician and the injured worker to assure that appropriate benefits are given.[5] Although an IME allows the insurer to deny the claim and gain in the short term, an IME report lacking credibility will cost the insurer substantially in the end.

Other issues which may be addressed in an IME include:

- determining the correct diagnosis;
- determining what is appropriate medical treatment;
- recommending additional diagnostic tests and medical evaluation which need to be accomplished;
- determining the employee's ability to return to work (fitness for duty);
- rating the employee's permanent impairments; and
- determining whether the employee has reached maximum medical improvement (end of healing).

Although an IME involves a physician and a patient, an IME does not constitute the usual physician-patient treating relationship." Physicians involved in normal treating relationships with their patients are bound by medical practice ethics and expected to be patient advocates while providing optimal and appropriate treatment. On the other hand, physicians who complete an IME are providing a service to insurer, employer or attorney by utilizing medical knowledge and medical skills to appropriately evaluate the available medical records and render specific opinions for the questions that have been raised. There is no physician-patient treating relationship when an IME is accomplished. The physician accomplishing the IME does not assume the role of the treating physician and does not provide any treatment recommendations directly to the patient. The IME report is sent to the party who requested the IME, and the physician is reimbursed by the same party.

Recent legislation requires that the patient is entitled to receive a copy of the IME report immediately upon receipt of the IME by the insurer or self-insured employer. Interestingly, the insurer is not legally bound to send the treating physician a copy of the IME report; thus, the treating physician should request a copy of the IME report from the patient if the insurer does not do so. When evaluating the IME report, "The Do's and "Don'ts of Independent Medical Examinations" (Table 1 and Table 2) may assist the treating physician to distinguish the objective and credible IME from the unfavorably biased IME. If the treating

Table 1: "The Do's of Independent Medical Examinations"

1) Obtain a detailed history of the injury/illness directly from the patient.
2) Explain the nature of your relationship with the patient, emphasizing that you are not providing a service to the patient but rather to the insurer (payor).
3) Perform a comprehensive examination.
4) Be honest in all communications.
5) Respect the rights of the examinee and other participants, and treat these individuals with dignity.
6) Reach conclusions regarding specific diagnosis, prognosis, and plan of care. This should be based on sound medical knowledge and have a clear rationale. If conclusions differ significantly from the treating physician(s), explain the rationale for the discrepancy.
7) Specifically address the posed questions of causation, effects of the injury/illness on the individual, psychological factors that may contribute to pain and disability, additional treatment needed, determination of healing plateau, and disability percentage.
8) Be prepared to address the conflict(s) in a professional and constructive manner.

Table 2: "The Don'ts of Independent Medical Examinations"

1) Make the potentially adversarial system more stressful.
2) Provide a "boiler plate assessment" without explaining the rationale for your conclusion.
3) Solicit patients to your practice.
4) Forget that you are performing a service for the insurance carrier and begin a physician-patient treating relationship implicit or explicit.
5) Forget that the report you generate will be legally provided to the patient (as well as be provided to the treating physician by the patient).
6) Compromise your medical ethics.

physician determines the IME has little merit, an appropriate response must be rendered in order to protect the benefits legally due to the injured worker. A response from a physician with expertise in worker's compensation and a solid understanding of the medical condition in question is preferable in order to minimize the risk of the patient losing entitled benefits.

Conclusions

The independent medical examination process can be useful and helpful in the delivery of care to injured workers. It can provide confirmation of the treating physician's diagnosis and plan of care. It can provide alternative treatment recommendations that may not have been considered. The IME can also weed out inappropriate claims and assist in "case closure" where appropriate coordinated services are not being provided and disabilities are unnecessarily prolonged. Most physicians performing IMEs are physicians who practice within the scope of their expertise and with appropriate medical ethics. With increasing medical care costs, some insurers utilize IMEs to arbitrarily and capriciously terminate injured worker's benefits. The guidelines provided will hopefully assist physicians in assessing the merit of an IME completed on their patients so that appropriate action can be taken.

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Features

INDEPENDENT OF WHAT? THE INDEPENDENT MEDICAL EXAMINATION BUSINESS

MICHAEL LAX

ABSTRACT

Workers suffering from a work-related health condition frequently are required to undergo examination by a physician chosen by the employer or a Workers' Compensation Insurance Carrier. While the opinions of physicians performing these "Independent Medical Examinations" (IMEs) have been criticized as biased by a conflict of interest, IME advocates assert that the methods used by the IME result in an objective and superior opinion. This article explores this claim to objectivity and superiority. It argues that pro-employer/carrier bias is embedded in the methodology IMEs advocate, and that the practical impact of the IME approach is to reduce the recognition of occupationally related health conditions and to minimize the disability associated with such conditions. The IME approach is more accurately characterized as a tool to standardize a product that can be marketed to corporate clients, rather than a way to precisely assess work-related health conditions.

Physicians are frequently called upon by Workers' Compensation insurance carriers and employers to perform evaluations of worker/patients with suspected work-related injuries and illnesses filing claims for benefits. Called Independent Medical Examinations (IMEs), these evaluations do not establish the usual relationship between doctor and patient, and in fact are not meant to establish a relationship of any type between examiner and examinee. Instead, carriers and employers pay for IMEs to answer specific questions they pose, and to report findings directly to them.

Critics have long pointed out that the financial relationship between carrier/employers and IMEs carries with it a conflict of interest, biasing IMEs in favor of

employers and carriers [1-3]. In response, IME advocates insist that not only are properly performed IMEs objective, but that they are of superior objectivity compared to the opinions of the worker/patient's treating physician. From the IME perspective, the opinion of the treating physician is tainted by the bias inherent in the doctor-patient relationship. When this relationship is established, according to this perspective, the physician tends to become an advocate for his/her patient, rather than a dispassionate observer. Because no doctor/patient relationship is established between the IME and the worker/patient, IME advocates assert the IME's opinion can be unbiased [4, 5].

IME advocates have expended considerable effort toward backing up their claim to objectivity. They recognize that acceptance of this claim is crucial to legitimizing the IME, increasing its value in the Workers' Compensation (and other) arenas. Toward this end, IME advocates have developed specialized training in performing IMEs, as well as organizations which bestow credentials on physicians completing the specified coursework and examinations [6, 7].

There is a need for closer scrutiny of IME advocates' claim to superior objectivity. Part of that scrutiny places IMEs into their social, political, and economic context. The context supporting IMEs begins with corporate needs. Insurance carriers and employers have an interest in limiting and predicting liability. These perennial desires have become more acute in the era of global competition and lean production. This has created expanded business opportunities for physicians and entrepreneurs selling services to insurance carriers and employers. To maintain their niche, IMEs must both produce results, (that is, help keep corporate costs under control), and continuously convince their corporate clients that only they are capable of producing quality service. In this context, training and credentialing IMEs is an attempt to standardize a product, so that corporate clients know what they are buying.

How IME advocates define the "properly performed" IME merits further examination. This paper will argue that IMEs are generally neither objective nor of superior quality. On a day-to-day level, the concrete effect of the IME on injured workers is notification following the exam that the insurance carrier is seeking a cut in Workers' Compensation benefits. Using the "official" standardized approach, IMEs reduce the number of permissible diagnoses, limit the diagnoses deemed work related, and minimize the disability resulting from an occupational injury or illness [8]. On a policy level, major aspects of the IME approach have been successfully included in business-led Workers' Compensation reform efforts in many states.

"Independent" Medical Examiners are independent of the injured workers they examine, but dependent on their corporate clients for their livelihood. Recognizing this role, practices and policies that aim to improve outcomes, medical care, and benefits for injured workers must challenge the increasing legitimacy sought by IMEs and their corporate backers.

CONTEXT: A BRIEF DESCRIPTION

The growth of the IME business has been stimulated by interconnected developments in the larger economy. With regard to work-related injuries and illnesses, the most visible context for the last 15 years has been an employer/insurer-led campaign for Workers' Compensation (WC) reform. Successful in many states, reform efforts have created a large niche for IMEs to fill.

In the mid 1980s, insurers and employers proclaimed loudly and in concert that the Workers' Compensation system was in crisis. Employers complained about increasing premiums. Insurers were concerned about declining profits in the face of stagnant premiums collected and increased benefits paid out. By 1996 more than half the states had legislated significant Workers' Compensation reform signaling the success of the employer/insurer political effort. Two themes were pushed forward to set the stage for reform. First, employers/insurers argued that the high costs of Workers' Compensation threatened a business climate which, instead, needed to be nurtured. Second, as Ellenberger points out, significant effort was expended to depict many Workers' Compensation claims as "suspect," thus putting all injured workers under a cloud of suspicion. Given these problems, business needed the states to reform Workers' Compensation in ways that would reduce employer/insurer costs and rein in workers, physicians, and lawyers pursuing "suspect" or outright fraudulent claims [9, 10].

The employer/insurer reform efforts had several common elements. They were summarized by Spieler and Burton and include:

1. Benefit reductions for injured workers
2. Changed rules of compensability restricting what is considered compensable
3. Managed medical care for injured workers reducing workers' choice and increasing employer/insurer control
4. Increased use of disability case managers contracted to employers/insurers [10].

As Spieler and Burton noted, the changes wrought by reform focused on making WC affordable for employers and profitable for insurers "without regard to whether benefits provided to injured workers meet a standard of adequacy" [10].

The introduction of managed care and disability management into Workers' Compensation opens up significant opportunities for physicians, case managers, nurses, and other entrepreneurs. These reforms allow employers to choose the companies and physicians who will provide services, delivering a captive audience of worker/patients to these providers. Since these reforms are viewed by employer/insurers primarily as cost control measures, they measure success by how much the chosen providers reduce costs. The dynamic of these reforms is to bring providers and employer/insurers into a direct relationship, supplanting the doctor-patient relationship. The worker/patient's "case" can then be "managed" by the professional and the employer/insurer without intrusion by the

person actually suffering from the injury or illness. The irony is that neither the employer/insurer nor the physician in this context is primarily concerned with the worker/patient's wellbeing.

Besides creating opportunities for IMEs, Workers' Compensation reform efforts have codified important components of the IME approach. For example, the AMA Guides to the Evaluation of Permanent Impairment (The Guides) have been adopted in many states for use in Workers' Compensation to assess disability. Many states have legislated changes that reduce the number of compensable claims by increasing the level of evidence needed to support a claim, and by eliminating some illnesses and injuries as compensable (e.g., stress and certain musculoskeletal conditions) even if they are work related [9, 10]. In addition, non-legislated, administrative efforts by the Workers' Compensation Board can create a climate that encourages Workers' Compensation judges to lean less favorably toward injured workers, to take the IME opinion more seriously, and to be more stringent in what they require to "prove" a condition is work related.

Workers' Compensation reform was made possible and stimulated by developments in the larger political economic context. During the boom years following World War II, unions were able to consistently win both significant wage and benefit increases for their members, and at least some recognition by corporations of unions as partners cooperating toward the same end (i.e., increased profitability). This relationship ended in the 1970s as corporations began seeking to transform themselves into competitors in a globalized market. As corporations have aggressively sought to cut costs, they have demanded the removal of restraints on both their activities and their movements. Pursuing this freedom, corporations have been determined to rid themselves of every possible "interference" posed by governments, unions, and workers. From the corporate perspective, workers are merely cogs in the machinery, available when needed, and disposable when not. Workers are supposed to be flexible in meeting corporate needs, and understanding when "business necessity" requires their termination. From the workers' perspective, the current context appears insecure and hostile. They also may feel relatively powerless in their own, or their unions', abilities to effectively resist the changes buffeting their world. At the moment, they are right: power resides decidedly on the side of the corporate class [11].

It is into this context that IME advocates are stepping, offering services to corporations. IME advocates are quite open about the fact that their clients are corporations and managers, and that their task is to counter the prevalent overdiagnosis of occupational injuries and illnesses and exaggeration of disability [5, 12]. As one Disability Case Manager put it: "One reason employers and disability carriers dig in their heels is because we know a large portion of physicians exaggerate . . ." [13] and (referring to the same "average physician"), "It is nice to believe your peers are . . . well informed, honest and motivated. . . . Unfortunately from my perspective that all too often is just not the case" [14]. They see their corporate clients rather uncritically, as generally willing to listen to

scientific reason, and as interested in the "truth" about injured workers. They consider corporations to have a "natural" interest in protecting worker health, due to either economic self interest or human concern. With this mindset, selling services to corporations, and depending on those corporate clients for financial survival and enrichment, in a context in which the balance of power between corporations and workers is so unequal, guarantees that IMEs will serve corporate interests. Unfortunately for injured workers, those interests prioritize profit maximization and cost reduction and lead corporations to seek to escape from responsibility for any costs incurred by workplace injuries and illnesses.

Occasionally an injured worker may be referred for an IME by his or her attorney because the treating physician is either unwilling or unable to offer an opinion regarding disability. The relative rarity of these referrals, however, ensures a lack of impact on the IME process as described in this article.

DYNAMICS OF THE IME

Why Do Employers and Insurance Carriers Hire IMEs?

IMEs are in demand as long as employers and insurance carriers find them to be dependable aids to cost-cutting. Dependability goes hand in hand with predictability. From the employer/carrier perspective, the physicians who treat injured workers in the community are neither. As a consequence, employers and carriers would like to see doctors they hire, the IMEs, give the opinions that count in Workers' Compensation (and in other settings where their financial interests are at stake). In this scenario, IMEs with a primary relationship with their corporate clients would replace treating physicians with a primary relationship with their patients.

IMEs and their advocates justify their argument on several grounds. First is the assumption that workers in general are untrustworthy when they report hazardous exposures, symptoms, or the extent to which an illness impacts their activities. The IME becomes necessary in this context, they argue, as a mechanism to guard against unjustified claims made by workers. Unjustified claims may exist on several levels. On one level are fraudulent claims. Workers may, for example, claim an injury sustained at home as a work-related injury, or may feign ongoing symptoms to increase or prolong the receipt of disability benefits. On another level, workers may unconsciously exaggerate or magnify their symptoms and disability under the influence of "non-medical" factors. One mental health professional who performs IMEs expressed the idea like this: ". . . it has become clear to me over the last decade that the mind-set I was trained for (clinical accuracy) is frequently subverted into collusion by patients who need 'validation' of their symptoms to maintain various gains" [15]. Injured workers who do not like their job, have a conflict with their supervisor, or are afraid of re-injury upon

return to work are examples of individuals who may express these issues as a disease or disability. A second justification put forward is that treating physicians frequently play a key role in the pursuit of unjustified claims. Some treating physicians, in this view, consciously perpetrate fraud out of economic self-interest. More treating physicians, according to IME advocates, however, commit fraud because their relationship with the patient puts them in the role of patient advocate. Consequently, the treating physician is biased, incapable of critically assessing the history given by the patient, and reflexively believing whatever the patient says. Some treating physicians go further, IME advocates assert, consciously exaggerating findings to help patients they see as victimized by an insurance carrier, an employer, or the "system." Treating physicians also may contribute to unjustified claims by providing poor or inappropriate medical care. For example, a surgeon may diagnose carpal tunnel syndrome and recommend surgery without obtaining the appropriate history, performing the necessary physical examination, or obtaining diagnostic testing to verify the diagnosis and rule out other possibilities. IME advocates argue that treating physicians are particularly unskilled in evaluating disability. As summed up by a Disability Case Manager: "The whole disability process is foreign to a physician's training. He or she is trained to diagnose and treat the patient, not to doubt the authenticity or severity of the symptoms nor are they trained to properly evaluate impairment" [16].

Skepticism of the worker/patient and his/her treating physician is fundamental to the dynamics and outcome of the IME process. IMEs are hired and given specific questions to answer because the employer or carrier has doubts about the validity of some aspect(s) of the case. IMEs also are typically provided with information from the employer or carrier that reflects their skepticism, which the IME is then asked to explore. Knowingly or not, the worker/patient is put in a defensive position from the outset of the interaction with the IME. In this situation, the worker/patient will have to work hard to prove the veracity of his/her description, while the IME probes for holes in the worker/patient's account. Through this dynamic, the IME becomes a tool for employers and carriers to transform a defense against "unjustified" claims and fraud into a defense against any information provided by the worker/patient.

As an example of this process, a maintenance mechanic in his mid-30s was called to repair a ruptured hose and clean up a spill from one of the machines in a factory where he worked. Soon after his arrival in the area, he began experiencing eye irritation, nose irritation, shortness of breath, cough and wheeze. Other symptoms included headache, nausea, and feeling generally sick. Over a period of time, the irritative and systemic symptoms abated but the respiratory symptoms persisted. The patient reported that he worked in the area for about an hour and he estimated that one or two gallons of liquid had spilled. He described the room where the spill occurred as relatively small and poorly ventilated. The materials spilled contained isocyanates.

The information given by the company to the IME put the exposure in an entirely different perspective. According to them, the spill involved only a couple of ounces and the worker/patient was in the area for only five or six minutes. In addition, they disputed that the area was particularly small and poorly ventilated. To prove their case, they hired an Industrial Hygienist to measure air levels of several components of the material (not the isocyanate component) in a "re-enactment" of the incident. All exposures were reported to be well below OSHA Permissible Exposure Limits. Despite the clear temporal relationship of symptoms to exposure, exposure to a material well known to cause this type of reaction, no pre-existing history of respiratory symptoms or disease, and no competing explanation, the information provided by the employer was enough to cast considerable suspicion on the credibility of the worker/patient. As a result, the claim remains contested in the Workers' Compensation system, and the patient has languished without benefits or access to medical specialty care for many months [17].

Incentives to Perform IMEs

The obvious incentive for physicians to perform IMEs is a financial one. IMEs are free of many of the problems of managed care and of Workers Compensation increasingly encountered in everyday medical practice. They are also free of the entanglements inherent in the development of doctor-patient relationships with patients. IMEs encounter no delays in payment for their examinations or testimony. They are not bound by the same fee restrictions set by the Workers' Compensation system that bind treating physicians. There is no paperwork besides a report or letter addressing the questions of the carrier/employer. There is no commitment to address any of the worker/patient's needs.

Fragmentary, but consistent, evidence suggests the fees IMEs command can be substantial [3]. For example, a physician testified in a Workers' Compensation hearing that he had been flown in to perform three IMEs in one day and had been paid $10,000. Bills mistakenly mailed to worker/patients and treating clinicians from IMEs revealed charges for a single IME ranging from $1,800 to more than $4,000. These IMEs were performed on worker/patients with occupational illnesses rather than injuries and may be higher than the average payments [18]. Nonetheless, they suggest that performing IMEs can be extremely lucrative. In fact, those training physicians to perform IMEs enthusiastically tout the financial benefits of doing these evaluations [6]. A prominent trainer let his class know that his yacht and vacation home in Maui were among the fruits of his IME labors [19].

Enterprising physicians or non-physicians may enhance their income further by establishing an IME company. Some IME companies have become quite large, establishing networks of physicians regionally or even nationally. The IME company maintains relationships with physicians from a variety of specialties so

that the specialist appropriate to the type of case can be chosen. The carrier or employer contracts with the company for IME services, rather than with an individual IME. Payment flows from the carrier or employer to the IME company and then to the examining IME. The advantage of this arrangement for the carrier or employer is that it lessens the uncertainty about choosing the "right" IME. The IME company is in business to provide this service to corporate clients and will be careful to contract with physicians unlikely to offend those clients. Some IME companies go further and require contracting physicians to be trained and for physician reports to be reviewed by IME company personnel [20]. For the physician, contracting with an IME company offers the advantage of a little distance between themselves and the carrier or employer paying for the examination. This allows the IME to maintain that s/he is not paid directly by the carrier/employer, implying that his/her opinion is truly independent. In addition, the physician likely will gain access to a larger market through the networking and marketing efforts of the IME company than s/he would have through his/her own efforts.

Faulty Premises

Corporations and IMEs have constructed an analytical framework that characterizes worker/patients as untrustworthy and ignorant, and treating physicians as incompetent and biased. In contrast, employers and carriers are seen as benevolent and knowledgeable, seeking to do right by their employees or policyholders and make an honest profit. The IME's role is to weed out the "unjustified" claims of work-related injury, illness, and disability that beset these well intentioned corporate citizens. These characterizations, however, amount to broad stereotypes that obscure a more accurate depiction of the context within which these participants operate.

As described briefly in the previous section, in the context of global competition, corporate freedom to act without "interference" has become the highest ideal and corporations have fought hard to weaken the position of labor. As a consequence, workers face a work environment that is hostile or indifferent to their needs. Insecurity runs high among the workforce, and workers have moved from demanding decent wages and working conditions to keeping silent just to hold onto their jobs. Injured workers are often treated quite badly in this atmosphere. Once injured or made ill, even workers with many years of loyal service often find themselves cast off as "unproductive." Very little effort is made to accommodate injured workers or to provide light or modified duties that meet their needs. As an example, a man worked for nearly 30 years for a small manufacturing company. He was experienced in all areas of production. The company introduced a new material into one area and the worker experienced an allergic reaction. He was able to work in all other areas of the plant without symptoms. Accommodation was requested restricting the worker from only that

particular area. The company responded by telling him that if he could not do all jobs he would be terminated [21].

When the injured worker files a Workers' Compensation claim, carriers and employers typically challenge the claim, making the process extremely long and difficult. The injured worker who loses his/her job often loses his/her health insurance as well, reducing access to health care for the entire family often covered by the insurance plan [3].

In this hostile environment, in a position of weakness, injured workers find their options for action severely constrained. An exceedingly common course is for an injured worker to ignore or minimize an injury or illness and to struggle to continue working beyond any reasonable limits.

Despite increased attention to the issue, the IMEs' charge of widespread worker fraud has not been borne out by the amassed evidence. While some worker/patients consciously feign illness/injury or disability, studies have repeatedly demonstrated that this is a miniscule problem. Identifying Workers' Compensation fraud has been a prominent component of reform efforts in many states over the last decade. Yet the anti-fraud efforts spawned by reform have yielded next to nothing in terms of finding more than a handful of workers illegally working the system [22]. However, the repetitive assertion of a massive fraud problem, (even if unsubstantiated) by employers and insurers, and the prominent publicity given to anti-fraud efforts (despite the lack of results) have strongly contributed to an atmosphere of suspicion [9].

In this context, the actions of the treating physician are much more variable than described by IME advocates. Many physicians are opting out of the Workers' Compensation system altogether by refusing to accept Workers' Compensation insurance as payment. Those who do accept Workers' Compensation insurance do not necessarily, or even frequently, adopt the role of patient advocate as described by IMEs. Physicians in busy practices frequently do not have the time, the energy, or the desire to take a detailed exposure history and do the detective work necessary to determine the work-relatedness of a given condition. They also do not wish to get bogged down in the paperwork, demands for information and justification, possible testimony and delayed payment that a Workers' Compensation case often entails [23].

In addition, the financial rewards of participating in the Workers' Compensation system as a treating physician are hardly commensurate with the rewards of performing IMEs. In contrast to IMEs, physicians willing to participate in the New York State Workers' Compensation system on behalf of their patients are paid less than $100 for a comprehensive visit, the rate set by the Workers' Compensation Board. To bill, a specific form must be filled out and a narrative report may be demanded. The form and narrative must be sent to three different recipients. Authorization for treatment or testing costing more than $500 must be specifically requested from the insurance carrier. Every single diagnosis, treatment recommendation, assessment of work-relatedness,

and disability assessment may be contested, resulting in multiple and repeated requests for information and justification. Testimony is sometimes required to resolve differences of opinion. After expending significant time and energy on a patient with a work-related injury or illness, the physician often finds that payment is delayed, frequently for long periods of time. As a result, many physicians refuse to accept patients with Workers' Compensation claims or accept them but bill private health insurance.

In addition, many treating physicians view patients claiming work-related injuries with the same skepticism as their IME colleagues. The campaign described by Ellenberger to cast suspicion on all injured workers as potential frauds has had its effects among treating physicians, a group certainly not immune to ideological currents prevalent among the general population. Under these conditions, treating physicians are unlikely to be overly motivated to file Workers' Compensation claims, making it more likely that when they do file a report supporting a claim, it is due to a conviction based on reason rather than blind advocacy. Numerous studies have documented that, in contrast to the claims of IME advocates, occupational disease is massively under-recognized [24-31]. Part of the reason for this is the under-diagnosis of occupational disease by treating physicians.

CONFUSING QUALITY AND STANDARDIZATION

The response by IME companies and physicians performing IMEs to critiques of quality and allegations of bias has primarily focused on improving the "quality" of IMEs through the standardization of IME practice. Toward this end, a whole structure of training courses, professional organizations, systems of credentialing, and referral networks has developed. The major purposes of this structure are: to educate a cadre of clinicians to perform IMEs in standardized fashion; to bestow credentials on educated physicians that identify them as having gone through the "appropriate" training; to legitimate these credentials as the only recognized and valid ones; and ultimately to connect IMEs with their corporate market.

Ideology of the IME: Components and Critique

Through trainings, conferences, publications, and listservs, the IME elite, a core of established and active IMEs and allies, work to socialize all physicians performing IMEs in a common approach. The approach contains several key elements:

1. Strict adherence to a biomedical model for diagnosis, assessing causality, recommending treatment, and assessing disability
2. Reliance on the AMA Guides to the Assessment of Permanent Impairment as the foundation for disability assessment.

3. Emphasis on the injured worker/patient's responsibility for his her own illness and recovery.
4. Emphasis on the IME's role in preventing the consequences of faulty practice by treating physicians.
5. An underlying assumption that IMEs will be done for employers and insurers with a consequent need to attend to these clients' interests.

The Biomedical Model: Erasing the Worker/Patient

The biomedical model has dominated American medical practice for the last century. In this model, the role of the physician is to identify and treat disease defined as a pathological derangement of organ function. While symptoms may guide the diagnostic investigation, the identification of the presence or absence of disease occurs independently of the patient's description of their symptoms or their perceptions. A finding using means such as physical examination, x-ray, or laboratory test is necessary to make the diagnosis and determine treatment. This has been augmented in recent years by the emergence of Evidence Based Medicine (EBM). The IME is encouraged to extend this approach to questions of causation (work-relatedness) and disability. Strict application of this approach sharply limits acceptable opinions on all of the core issues addressed by the IME, leading to: fewer diagnoses, diminished recognition of the work-relatedness of diagnosed conditions, fewer acceptable treatments, and minimization of the extent of disability [4, 32].

Limitations of the biomedical model in the general practice of medicine have been long recognized and include a variety of critical perspectives. One critical approach recognizes that clinicians do not treat diseases, but rather, patients with illnesses. Individuals usually go to their health care provider because they have symptoms that concern them. These symptoms may reflect an underlying disease process that can be identified. However, patients with the same disease process can experience their disease in extremely different ways. For example, two individuals with a diagnosis of Chronic Obstructive Pulmonary Disease (COPD) and similar pulmonary function tests may describe significantly different levels of shortness of breath. As a consequence, one carries on with work and other activities with little limitation whereas the other's activities are severely curtailed. Or to take a work-related example, two individuals suffer similar back injuries at work. One recovers relatively rapidly and uneventfully and returns to work. The other continues to describe significant pain after trials of various medications, physical therapy, and perhaps other treatment modalities, and is unable to return to work.

Some patients, however, have symptoms, but no identifiable disease. (It might even be argued that the back injury described above is an example.) Yet their symptoms can have a severe impact on their lives. Individuals with headaches provide an example of this type of problem in general practice, and individuals

with Multiple Chemical Sensitivities (MCS) provide another example in Occupational Medicine practice.

The biomedical model can be used to diagnose and treat some diseases, but it cannot be used to effectively address the patient with an illness. Twenty-five years ago, Engel proposed a biopsychosocial approach to more successfully treat the patient with an illness [33]. His approach recognized that the way a patient experiences an illness reflects the disease process (if identifiable), but is also tremendously impacted by a range of psychological and social factors unique to each patient. If the clinician wants to be effective, that is, able to help the patient eliminate or minimize the impact of their illness, s/he must identify and "treat" the psychosocial factors as well as the disease. This was an important insight, but one which can be interpreted and utilized in a number of ways.

IMEs have come to recognize the importance of the psychosocial and their training reflects this recognition. While Engel proposed the approach as a holistic one in which treatment of disease and illness would be integrated, the IMEs use it to separate the patient and his/her issues into compartments, often with the effect of using the psychosocial aspects of the patient's illness to call the legitimacy of the patient's condition into question. One compartment includes the disease and its work-relatedness, its treatment, and its impact on ability to work. The second compartment is composed primarily of "individual" psychosocial issues, including the patient's mood, motivation, and satisfaction with his/her job. From this perspective, an occupational disease and its disability and treatment ramifications legitimate the patient in the sense of making her/him eligible for benefits, accommodation at the workplace, and modifications of the workplace to reduce exposure. The greater the role of "psychosocial issues," however, the less "deserving" the patient/worker is of access to benefits.

As IMEs have come to recognize the psychosocial component of disease, they have also begun asserting this component's importance in determining how quickly a patient recovers or returns to work. As this component is increasingly emphasized, the burden of responsibility is shifted increasingly to the patient. "It takes a lot of perseverance and effort and moral fiber and backbone for some people to overcome and many find it easier to go the disability route"[34] is the opinion of one physician that demonstrates this attitude. Others concur: "More often however, the biggest issue in disability cases is one of motivation, not impairment"[35]. Increased attention to the worker/patient's responsibility for his/her own condition and recovery decreases the attention paid to the role of workplace exposure and social conditions in producing illness.

In clinical practice, other implications of the IME approach are increasingly evident. For example, not only is the patient's history called into question as accurate or useful information, but so are increasing parts of the physical examination. This is especially problematic with musculoskeletal and neurological conditions. Pain on examination is routinely minimized as a "subjective" finding. The validity of range of motion testing is questioned because patient cooperation

is required. The same is true of much neurological testing of sensation, motor function, gait, and balance. The effect of this deletion of the patient's participation is not only to continuously reduce the number of conditions deemed work-related and limit the disability related to those conditions, but also to make it increasingly difficult to diagnose the work-related conditions deemed legitimate. As a consequence, benefits and workplace accommodations/modifications are diminished or denied completely [36].

In addition to diagnosis and appropriate treatment, the IME is called upon to assess the workplace causation of disease. In this area, the biomedical approach also applies. To prove causation, "objective" documentation of overexposure must be shown. The occupational history taken from the patient, like the medical history, cannot be relied upon for an accurate description of workplace conditions. "Appropriate" exposure information typically is supplied by the employer or a consultant hired by the employer. "Overexposure" is defined by exposure above regulatory air limits or professional guidelines. As a result, if both the patient and the employer provide exposure information, the respect accorded that provided by the employer contrasts with the disdain shown for that of the patient. Employers at times will pay for a few air tests and if nothing exceeds regulatory limits the IME can give the workplace a "clean bill of health," absolving the employer of any responsibility for causing the patient's illness. Often, however, there are no measurements or workplace study. In those situations, the IME will have no quantitative evidence regarding exposure, and thus no basis for deciding a significant exposure has occurred. The usual result of this approach is predictable: a finding that exposure conditions that would likely have caused a patient's illness have not been documented, and that a workplace-related disease cannot be diagnosed.

The function of the biomedical model as a device to limit diagnoses, attribution of work-relatedness, and level of disability is often strikingly discernable in IME practice. IME practice frequently diverges from the clinical norm among practitioners in the community, including their own (non-IME) clinical practice. For example, one IME denied that a patient had asthma despite a history consistent with the diagnosis, peak flows showing variability, positive response to anti-asthma medication, and a positive methacholine challenge test. The history and reported response to medication were dismissed as subjective, the peak flows were deemed unreliable due to the potential for patient manipulation, and the methacholine test was questioned due to a supposed history of "problems" at the lab where the test was performed. The bar in this case was obviously set much higher than not only the clinical norm in the community, but also higher than the clinical norm likely to be used by this physician in his everyday practice. IMEs also often betray a double standard in the way they assess potential work-related and non-work-related factors in their own report. For example, a patient developed hypersensitivity pneumonitis. He operated a crane in a steel mill in close proximity to the ceiling where he reported pigeons routinely roosted.

His job duties also included sweeping up debris including pigeon feathers and droppings. He was found to have elevated antibody levels for pigeon droppings. The IME doubted that the disease was caused by reported workplace exposures, but suggested that exposure to blackbirds near his home might be responsible. The IME gave this opinion with no report by the patient or anyone else that blackbirds in fact live anywhere near his house [37].

A recent study comparing IME and treating physician examinations documents a similar conclusion. In the study of 27 IMEs performed on patients being treated at an occupational health clinic, all but one IME would have reduced benefits for the injured worker if the opinion were to be accepted by the Workers' Compensation judge. IMEs made fewer diagnoses, considered fewer diagnoses to be work related, and considered disability to be less severe when compared to the opinion of the treating occupational medicine physician [8].

Disability Assessment

Description

Assessment of the extent and permanency of disability looms large in most IME trainings. The major reason for this prominence is that permanent disability awards are a major cost for carriers and employers in Workers' Compensation [38, 39]. In addition, skill in assessing disability in the Workers' Compensation setting can also be applied in assessments for Social Security and Long Term Disability Insurance carriers, opening up another market niche for an IME. Opportunities also seem to be increasing for IMEs to link disability assessment with "disability management." In this niche, physicians assess disability within the broader context of services sold to employers to prevent disability and encourage return to work.

Disability assessment is unique among the issues IMEs are asked to assess in that a well established system based on the American Medical Association's (AMA) *Guides to the Evaluation of Permanent Impairment* (*Guides*) is in place to readily standardize the approach. Since the late 1950s, the AMA has been putting out the *Guides* to provide physicians with "a standardized, objective approach to evaluating medical impairments" [40, p. 1]. The *Guides* were published in book form in 1971 and have recently undergone their fifth revision.

The fundamental intent of the *Guides* is to allow physicians to measure the impact of disease on an individual's life activities *not* including work, defined by the *Guides* as impairment. The *Guides* begin by assuming that disease adversely impacts individual organ systems (e.g., heart, lungs, skin). The severity of organ system dysfunction is measured and then converted into an Impairment Rating, giving an "estimate" of the impact of the disease on the "whole person" [40, p. 4]. For example, an individual with asbestosis would be placed in one of four impairment classifications, depending on the results of Pulmonary Function Testing (PFTs). In the case of respiratory disease, the organ system

impairment is automatically translated into a whole person impairment rating by use of one table in the *Guides*. PFTs are used in this case as the sole and direct correlate with a specific level of loss of ability to perform activities of daily living (ADLs).

Since impairment is defined as a departure from "normality," the *Guides* must first define "normal" organ and whole person function. For the most part, normal organ function is defined as the average function measured among a group of healthy individuals. Typically, results falling in the lowest and highest five percent of the range are considered abnormal. In some situations, (as when no population norms are available), the *Guides* call for comparing an individual's results to his/her own pre-injury or illness results, or for using "clinical judgment . . . based on the physician's knowledge or estimate of the individual's pre-injury or pre-illness condition" [40, p. 2]. With the exception of respiratory conditions, the *Guides* use universal norms considered applicable for men and women, all age groups, and all ethnic backgrounds to measure organ dysfunction.

In contrast to measuring organ dysfunction, the authors of the *Guides* used their "medical judgment" to determine how specific organ abnormalities impact function in daily, but not working, life. The *Guides* were developed using a consensus approach. Physicians from specialty and other AMA-recognized organizations served on committees developing and reviewing the various chapters. In addition, impairment rating classifications developed by specialty societies were often adapted and incorporated into the *Guides*. Revisions were based on a combination of a review of relevant literature and clinical experience.

In the most recent revision (5th), the authors note there have been few changes in impairment ratings from the previous edition because "there are limited scientific data to support specific changes" [40, p. 5]. They go on to recognize that data were similarly limited for the previously adopted impairment ratings as well, but that "these ratings are currently accepted and should not be changed arbitrarily" [40, p. 5]. The *Guides*' Impairment Ratings (IR) purport to quantitatively assess the impact of a particular disease or injury on an individual's ability to carry out activities of daily living (ADLs). An IR of 8% or 50% or 80% literally means that the individual's capacity to perform ADLs has been reduced by approximately that percentage. To "estimate" impairment ratings in uniform fashion, the authors of the various chapters must utilize a common ADL scale. There must be agreement on the ADLs to be included, as well as agreement on how much a diminished ability to carry out specific ADLs impacts the individual's overall functioning. In other words, an individual who has trouble bathing and dressing, stands for only short periods of time, and can walk only half a block should be deemed to have the same level of impairment no matter what the specific illness or injury causing the impairment is. According to the authors of the *Guides*, similar to organ dysfunction, these impairment ratings can be applied universally, for an individual of any age, gender, ethnicity, class, cultural background, and so forth.

Work is specifically excluded from the impairment rating because the authors felt that the "impairment percentages could not account for the diversity or complexity of work but could account for daily activities common to most people" [40, p. 5]. Specifically: "(1) work involves many simple and complex activities; (2) work is highly individualized, making generalizations inaccurate; (3) impairment percentages are unchanged for stable conditions, but work and occupations change; and (4) impairments interact with such other factors as the worker's age, education, and prior work experience to determine the extent of work disability" [40, p. 5]. The *Guides* explicitly and repeatedly warn examiners that impairment ratings obtained using the *Guides* cannot be directly utilized to rate disability, or the impact of the injury/illness on the person's ability to work. Despite the explicit prohibition asserted by the *Guides*, many states officially recognized the *Guides* as at least part of the prescribed basis for disability determinations in Workers' Compensation, and in other states, business continues to push for this recognition [40, pp. 8-9; 41].

Critique

The use of the AMA *Guides* advocated by IMEs is fundamentally flawed for two major reasons. The first is that the claim that the *Guides* are the most, or even an, accurate measure of impairment (defined as the impact of the disease on daily activities) cannot be sustained. The *Guides* fail to accurately capture the impairment resulting from a health condition because of: the reality that the patient's experience of the disease (the illness), and not the disease as measured by available tools, determines impairment; and the impoverished definition of ADLs put forward by the *Guides*. The second is that in Workers' Compensation disability assessment, the *Guides* are being used for a purpose they are explicitly not intended for [42-44].

As described earlier, the process the *Guides* uses to determine IRs consists of committees composed of physicians coming to an agreement. Each committee is responsible for a particular organ system. The members must first determine the means to be used to assess whether the organ is functioning normally or abnormally. Abnormal function must then be rated in terms of severity. Finally each level of severity must be described in terms of its impact on the individual's functioning in daily life. As noted already, the *Guides*' authors admit that the body of "scientific literature" available to serve as a basis for these decisions is extremely limited. Consequently, much of the decision-making is based on the clinical experience of the committee members and the precedent of previous editions of the *Guides*.

Clinical experience may confer some, (though certainly not uncontestable), legitimacy on physicians' opinions regarding the assessment of normal and abnormal organ function, and the severity of the abnormality. To argue, however, that physicians have some superior claim to judge the impact of a disease on

an individual's ADLs has no basis. Neither medical school nor post-graduate training prepares physicians to make these assessments. In addition, although clinical experience informs the opinions physicians give, that experience is both limited and refracted through a lens composed of many influences beyond the clinical [45].

In order to develop the IRs, physicians on the *Guides*' committees must have a conception of what ADLs are before assessing the impact of disease. Once the world of ADLs has been defined, the impact of specific diseases can be measured. However, if the conception of ADLs does not accurately and comprehensively reflect the real world of patients' experiences, then the assessment of the impact of the disease on ADLs will be similarly inaccurate. According to the *Guides*, ADLs can be described comprehensively without much difficulty. This is in contrast to work activities which are specifically excluded from impairment ratings because of their complexity and their variability over time. The basis for this distinction between ADLs and work activities is unclear since every claim the *Guides* make with regard to work activities could also be applied to ADLs. In other words, the generic ADLs proposed by the *Guides* are extremely simplistic and hardly do justice to a complex reality. They do not describe the differences between individuals, nor do they describe any differences between an individual's past versus present capacities.

The *Guides* attempt to reduce the world of possible non-work activities to a universal core which restricts consideration to a very limited range of extremely basic activities such as the ability to feed oneself or the ability to drive. "Normal" activities of daily living vary greatly between individuals. A host of factors may shape an individual's "normal" activities including age, gender, class, ethnic or cultural background. "Normal" activities also change for each individual person over time and as a consequence, the myriad ways an illness may impact everyday function is lost to view. In order to be seen and measured by the *Guides*, the impact must be severe and specific to the few activities the *Guides* have defined as relevant.

A similar host of factors also shapes physicians' views of their own medical experience and that experience's impact on the "medical judgment" relied upon to set the criteria for impairment ratings. Consequently, the limiting of the definition of impairment to the impact on certain "core" ADLs reflects not just the clinical, but the overall, "experience" physicians authoring the *Guides* bring to their committee work. Dembe has shown how some of these influences have practical importance in medical practice. For example, he recounts how the views of one influential physician blocked recognition of carpal tunnel syndrome as a work-related condition among women for decades. That physician's experience taught him that women's work was non-strenuous and not capable of causing musculoskeletal injury [46]. Dembe also illustrates opinions physicians have put forward at different times which have characterized various ethnic groups in prejudiced and stereotypical ways. As a consequence of these views,

symptomatic worker/patients from these groups were more likely to be blamed for sharing the vices and undesirable behaviors attributed to their group rather than recognized as suffering from an occupational injury or illness [47].

The relevance of this history for disability assessment is to suggest that the conception of ADLs; that is, what they are, which ones are important, and when the severity of a disease is enough to curtail them, are shaped by similar social influences. For example, the rigors of medical school, residency, and medical practice, along with the need to run medical practice as a business, imbue many physicians and other professionals with the attitude of the self-made man or woman. As a consequence, their expectations of others to be strong and willing to overcome most physical or emotional obstacles to pursue a career or keep a job are high. This will likely be reflected in an expectation that a disease must be quite severe to significantly affect ADLs, and in a willingness to accept curtailment of some, or even many, "less significant" ADLs before impairment is acknowledged. This attitude is reflected in the comments of an employee benefits supervisor: "I am a benefits administrator who is active in the disability and absence management program of our company. I am also a back injury survivor. I sometimes have a difficult time understanding employees who cannot seem to get beyond the injury, diagnosis, pain, discomfort, etc. I realize I am unique in that I do not like pain-killing drugs much. I have teeth filled without using Novocain and have been told I have a high pain tolerance level. With all that in mind, I take a step back in dealing with employees who stub their toes and are out for 12 weeks" [48]. Using this personal experience as a guide, it is easy to imagine that the bar injured workers must surmount to be deemed "deserving" will be set extremely high.

Injured workers, and other non-physicians, are likely to bring a different perspective to the conceptualization of ADLs, resulting in a different opinion regarding the level of impairment for any given patient [49]. This was borne out in a study that compared the way injured workers, community members, and physicians using the AMA *Guides* rated the extent of impairment from a broad range of conditions. Both the injured workers and community members consistently ranked extent of impairment higher than the physicians, leading to the study's main conclusion: ". . . that the AMA PI (permanent impairment) values systematically under predict the loss of the quality of life that workers associate with the various permanent impairments" [50]. The implication of this argument is that the conceptualization of ADLs and the assessing of impairment are not medical tasks. Injured workers recognize this when they argue: "Injured workers should have input into the American Medical Association *Guidelines* instead of being set by a group of doctors sitting around a table in an office somewhere" [51]. The fact that physicians have monopolized this role is more a reflection of politics than necessity. Physicians claim this task as their own, while corporate clients are satisfied with this arrangement since it has served their need to minimize costs.

In addition to the limitations conceptualizing ADLs, the IME version of disability assessment suffers from its exclusive focus on disease rather than illness. The same disease is often experienced quite differently by different individuals, resulting in disparate impacts on everyday function. For example, two men in their mid-30s develop asthma of similar severity measured by medication use, symptoms, and pulmonary function testing. One of the men is an avid softball player and finds that his asthma precludes him from playing. In addition, he can no longer socialize with his softball friends because their favorite gathering place is a smoke-filled bar he can no longer tolerate. In contrast, the other man leads a relatively sedentary lifestyle, socializing with non-smoking friends mostly at home. These activities are not significantly diminished by his asthma. Despite the fact that the activities of these individuals' everyday lives are impacted to such different degrees, the AMA *Guides* would assign them the identical impairment rating.

To consider another example, imagine two women in their 40s with chronic and recurrent low back pain. Both have evidence of degenerative joint disease on x-ray, symptoms and signs of nerve impingement, similar needs for medication, and recurrent need for more intensive treatment (i.e., physical therapy). The AMA *Guides* would assign similar IRs for the two women. However, one of the women is married, with two teenaged children. When the woman needs help with tasks that are problematic for her back, the children and her husband help out. When she is going through a flare-up, the rest of the family pitches in to keep the household running and to help take care of her. She has the time and financial resources to join a health club to exercise regularly and engage in activities meant to strengthen her back and help minimize pain and prevent flare-ups. Although, she must avoid some activities she pursued in the past (i.e., skiing, tennis), she is generally upbeat and has adapted to her condition without feeling significantly limited. In contrast, the second woman is a single mother with smaller children. Without familial support, she struggles alone to meet her family's needs. She does not have the time and resources to take care of herself. It is easy to imagine her caught in a cycle of pain, inadequate treatment, and increasing depression, beset with demands and little support. Her worldview is likely to be characterized by resignation and thoughts of making it through the day, rather than hope and satisfaction. As in the first example, the *Guides*' prediction of similar IRs based on similar disease states does not come close to capturing the disparate ways the disease has impacted the everyday functioning of these two women.

The nature and severity of an illness can be shaped by complex factors not easily amenable to analysis by physicians constrained by lack of training, and by lack of time in a busy practice. The *Guides* have chosen to focus on disease and ignore illness, which simplifies the process for busy clinicians. Unfortunately, this choice also eliminates the basis for even attempting to estimate impairment accurately [52]. If the illness determines the impairment, then the

nature and severity of the illness, not merely the disease, must be understood and characterized.

In addition to the problems just described, the *Guides* are being utilized for a purpose they are explicitly not intended for. IME trainers may begin their trainings with a recognition of the fact that impairment does not equal disability and that the *Guides* assess impairment. IMEs are thus required to take the extra step of translating the impairment into a disability. However, the IMEs know full well that 40 states have recognized the *Guides* as a mandatory, and in some cases the sole, component of disability assessment in Workers Compensation, narrowing or even eliminating the distinction between impairment and disability. This is another cost-cutting device at the expense of injured workers as many workers become disabled at relatively low levels of impairment. For example, if a construction worker injures his back, his ability to do his job could be severely restricted or even ended. However, use of the *Guides* would likely show a level of impairment incommensurate with his disability since he is able to dress, walk, drive a car, bathe, without assistance. The *Guides* suggest he is able to function fairly well as a "whole person" despite the fact that he can no longer do his job. The impact on Workers Compensation benefits can be tremendous, explaining why businesses have put this particular Workers Compensation reform so high on their agenda [38, 39, 41].

In 1996 business proponents argued that in New York mandatory use of the *Guides* to assess disability would "cut costs in New York by an estimated $580 million. Virtually all of the cost reductions they claim will be generated will come directly from deep cuts in income-replacement benefits for workers with permanent injuries" [44]. Spieler and Burton note that requiring the use of the AMA *Guides* to determine total disability resulted in a 97% reduction of such awards in West Virginia (10). Instead of pointing out this improper use of the *Guides* and urging physicians to reject this use, IMEs have chosen to accept and participate in this practice.

The combined effect of the *Guides'* focus on disease and universal application of a restricted set of ADLs is to minimize impairment ratings. The focus on disease limits the conditions that are considered capable of impairing an individual. The narrow set of ADLs limits the extent to which recognized diseases are deemed to have impacted functioning. Along with the improper use of the *Guides* as a measure of disability, the overall impact of a *Guides*-based approach is to reduce disability ratings and consequently to reduce disability benefits to injured workers.

Injured Workers: Suspicion and Accountability

As described above, the injured worker is evaluated by the IME under a pall of suspicion generated by both the specific dynamics of the IME process and the general campaign for Workers' Compensation reform. The untrustworthiness of

worker/patients is a theme IME advocates continue to emphasize, teaching prospective IMEs how to identify patient/workers who are exaggerating or faking symptoms and/or loss of function. For example, a national for-profit training firm advertised a videotape entitled "Symptom Magnification, Deception, and Malingering" demonstrating 14 specific and "dozens" of other maneuvers purported to detect the consciously fraudulent and subconsciously exaggerating patient [53]. These and other similar materials give the impression that malingering and symptom magnification are rampant. Physicians sensitized to the asserted magnitude of these problems must maintain a high degree of suspicion so as not to be "misled" into identifying a work-related cause of the patient's illness, or giving too high an impairment rating. Physicians are encouraged to distrust what patients say and be suspicious of patients' motives, and in effect to function as police identifying and weeding out patients "undeserving" of benefits.

Outright fraud, however, is only one way that patient/workers can mislead the unwary physician. According to IMEs, patient/workers routinely pursue secondary gains from their illness that impede improvement and return to work. These worker/patients are identified as those whose symptoms are judged out of proportion to the magnitude of their disease. In contrast to fraud or malingering, individuals with "symptom magnification" are not consciously falsifying the extent of their illness. Instead sub- or unconscious mechanisms are at play exaggerating the extent of the illness.

One problem with the secondary gain concept is that it assumes that medical practice is capable of measuring and demonstrating the true extent of every disease process. And conversely, it assumes that every symptom that cannot be substantiated by a sign or test must be psychological in origin. A cursory survey of the history of medical practice should dispel both of these notions. Amassed clinical experience, research, and the development of new diagnostic and treatment technologies and modalities will continue to reveal new aspects of pathophysiology previously deemed "unknown."

In addition, the secondary gain concept reflects a particular conception of the distinction between disease and illness. From this perspective, illness or the totality of the patient's experience, is contributed to by the disease process itself and is a problem mediated by psychological factors in the way the worker/patient perceives the disease and expresses the consequences. The implication is that there is a normal and an abnormal way to experience disease and that patient/workers abnormally exaggerate their disease. Consequently, the cause of the illness is something about the patient/worker, and treatment is focused on changing what is "wrong" with the individual. The individual patient/worker bears responsibility for causing the problem and for resolving it.

Alternatively, illness could be conceived as the product of an interaction between an individual with or without a pathophysiologic derangement (a

disease) and his/her physical and social environment. This conception both challenges the notion of normalcy in the symptom magnification model, and asserts that an illness cannot be understood separated from its social context [45]. An example of a patient/worker with low back pain illustrates the contrasts between the two approaches. If the patient/worker reports severe continuing pain despite appropriate treatment, and s/he lacks physical findings or abnormal radiological studies, s/he would likely be labeled a "symptom magnifier." In practice, this often leads to an end to medical treatment as the physician tells the patient/worker that there is no further treatment that can be offered, and an end to benefits as the patient/worker is pronounced fit for work. The patient/worker is left to their own devices to solve "their" problem. Investigating the work context might reveal, however, that the patient/worker's job requires a lot of lifting and materials moving, staff has been reduced, and the patient's supervisor is constantly demanding more "productivity." In addition, the patient's employer challenged his/her workers' compensation claim, suggesting s/he was faking the severity. Given this context, the patient's illness becomes understandable as a consequence of injury in a context where the threat of re-injury due to unmodified risk is compounded by the employer's emphasis on productivity rather than safety [54]. "Treatment" in this case, in addition to various medical modalities, would require changes in both the physical and social context of the workplace.

The willingness of IMEs to "see" worker/patients as dishonest (consciously or unconsciously) springs more from an underlying worldview than it does from "objective" evidence. That worldview is characterized by a core belief that individuals are largely responsible for their own destinies through the various choices they make. As one participant on a disability listserv put it: ". . . I am accountable for my actions, errors in judgment, bad luck, ignorance, lifestyle choices, genetic flaws, perceptions, and my impact on others. What we lack is not more economists or actuaries, it is personal accountability and self reliance to accept that life is full of joy and tragedy and often without balance of either" [55]. A recurrent theme among IME advocates is that American society has spawned excess expectations that people who make "bad" choices will be protected from the consequences of those choices. Instead, advocates of this perspective assert that individuals should be encouraged to rely on their personal resources to overcome their difficulties. Those who cannot or will not do so should be left to their own devices. As summed up by an Occupational Medicine physician: ". . . I agree with the idea of personal responsibility. Lester Breslow . . . stated, 'The solution to ill health in modern American society involves individual responsibility . . .' I think we need to look more at fostering this concept, rather than the 'entitlement' society that pervades" [56]. The IME approach, which sees the worker/patient's behavior as a primary cause of unnecessary illness and disability is perfectly consistent with this underlying worldview.

The Doctor's Proper Role

Another central component of the IME ideology is the idea that physicians need to abandon their traditional notions of the doctor/patient relationship. As discussed earlier, IMEs argue that the traditional relationship carries with it a natural inclination to play the role of patient advocate. As a consequence, treating physicians are inherently biased in favor of the patient and cannot perform an objective assessment of work-relatedness or disability. Some IMEs go so far as to argue that the treating physician has a conflict of interest because s/he has a financial incentive to keep the patient coming back for treatment. This "conflict" leads to over- diagnosis and over-treatment or "iatrogenic disability" [57].

The idea of "iatrogenic disability" flows directly from the conception of patient/workers as (consciously or unconsciously) untrustworthy. The flip side of this view of patient/workers is an assumption that corporate employers and insurance carriers are a generally benign group with an interest, financial and humane, in the health and well being of "their" employees. Given this view of patient/worker "reality," the role of the physician is to uncover the primary and secondary gain issues and point them out to employers and insurance carriers. Since these are "non-medical" problems, they are the patient/worker's problems, his/her responsibility to work out. Instead of patient advocate, the role of IME is primarily that of gatekeeper, making sure that the "undeserving" are unable to access benefits provided by the IME's clients.

An example will serve to illustrate how IMEs respond to their clients needs in practice, even when there is no question of the worker/patient's trustworthiness. An occupational medicine physician reported to a listserv of disability management professionals that he had treated a man who had a severely fractured foot [58]. The foot was swollen and extremely painful, the patient in need of medication and other measures to reduce the swelling and pain. The physician recommended the patient remain out of work for a few days. The employer was "livid," complained to the physician's employer and threatened the worker with loss of job if he didn't return to work on "light duty," which essentially consisted of sitting in an office doing busy or no work. This case elicited a number of responses from list-serv participants. One respondent blamed the treating physician for creating dependency by paternalistically advocating that the patient should not return to work. According to this respondent, the treating physician should have given his opinion to the patient and then left it to the patient to advocate for himself in response to the employer's demand to return to work. As to the potential adverse consequences for the patient: "Even if the employer did try to take disciplinary action or even fire the worker in this particular situation, do you think it would have stuck in front of a union arbitrator or court—ever?" [59]. Another respondent took this theme farther by declaring as a general principle it is not the physician's role to advocate for the patient in situations like these. The doctor should give his/her opinion, and then step back, recognizing

that management has the right to make all decisions regarding accommodations. This respondent goes on to argue that treating physicians "may not fully understand [the employer's] options for accommodations and we should be open minded enough that we give them the option to try." He puts forward the idea that reading instructional manuals for an entire workday or workdays is an example of a potentially acceptable light duty accommodation [60].

These responses demonstrate some of the major themes of the IMEs' conception of "serving" corporate clients. Responding to their clients' needs, IMEs will go to great lengths to "understand" their clients. "Understanding" then slides into rationalization and justification of even "outrageous" behavior. At times, the physician may not agree with a client's behavior, but, the respondents to the preceding scenario argue, s/he should recognize management's right to make the ultimate decisions and back away from "advocacy" on behalf of the worker/patient.

At the same time as they see themselves as relatively powerless relative to management, the respondents see the labor-management playing field as relatively equal, or maybe even tipped in favor of workers and unions. Consequently, injured workers can be expected to advocate effectively for themselves, and if they have trouble, their unions and the legal system are powerful weapons that can be called upon. This viewpoint is either breathtakingly naïve or disingenuous. As discussed earlier, workers and unions function in a workplace, legal, regulatory, and political environment that is hostile to their concerns and in which corporate power is dominant. In this context, "empowering" the injured worker to make him less dependent on a physician is, in fact, abandoning him to a solitary fate to be determined by the employer. The legal or "union arbitration' structures that will save him from this fate are non- existent for a non-union at-will employee and are minimally effective even for many union employees.

Standardization Does Not Equal Quality

IME advocates have been relatively successful in creating a coherent perspective and in socializing physicians to accept and apply this perspective in the performance of IMEs. Despite being touted as an "objective" approach, however, the conceptual underpinnings which give it a specific character are conditioned by a specific worldview and financial interests. It is no accident that an approach based upon distrust of workers (and trust of employers) and a reliance on methods that minimize diagnosis, work-relatedness, and disability, while maximizing personal responsibility, has the ultimate effect of minimizing benefits for patients/injured workers. Nor is it an accident that this approach is popular with corporate clients interested in cutting costs. IME advocates have succeeded in creating a standardized approach, but the only perspective from which this can be deemed high quality is from a corporate one.

BUILDING LEGITIMACY

Aside from socializing prospective IMEs, IME advocates are also engaged in an ongoing effort to legitimate their practice among several target groups. By building legitimacy, IME advocates hope to establish themselves and their approach as the dominant, and perhaps sole, approach recognized by other physicians and physician organizations, employers, and insurance carriers, and by Workers' Compensation policymakers. Maximizing legitimacy among these groups ensures a continuing and growing market niche for recognized IMEs. Legitimacy is sought through the development of mechanisms to credential IMEs and the exploitation of opportunities to network amongst the target groups.

IME Credentials

Over the last 15 to 20 years, two organizations have been created to establish credentials and a credentialing process for IMEs. Credentials identify the IME as having completed a prescribed course of study and demonstrated mastery of specified subject matter. On a practical level, credentials allow IMEs to market themselves more effectively to corporate clients as possessors of superior skills, and corporate clients to easily identify the "right" IME for their needs.

In the late 1980s, the American Academy of Disability Evaluating Physicians (AADEP) was formed with the intent of establishing disability evaluation as a medical specialty or subspecialty equivalent to others such as Internal Medicine or Cardiology. However, subspecialty training in other fields requires a minimum of two years, in addition to completion of a residency in a related specialty. Training programs of this length and depth did not (and do not) exist for disability evaluation. Moreover, there has not been recognition by the general medical community or the American Board of Medical Specialties (ABMS), the parent body recognizing and accrediting medical specialties, that disability evaluation is a distinct specialty similar to others already recognized. Consequently, after a few years the AADEP scaled back its expectations, and decided to bestow Fellow status in the AADEP on physicians meeting defined requirements. To achieve fellowship status, a physician must attend required educational offerings and take a "Case Report Writing" test, and must provide evidence of some combination of other activities including: contributing to the disability evaluation literature, attending additional educational offerings, completing an AADEP home study curriculum, providing service to the AADEP, and attaining Board Certification in a medical specialty [7].

In 1994, the American Board of Independent Medical Examiners (ABIME) was created to offer a pathway to certification as an independent medical examiner (CIME). The certification process was meant to recognize proficiency in a focused area of medical evaluation. The main criteria for certification are 15 hours of approved training and passing an ABIME-created examination of 100 questions. Unlike the AADEP, the ABIME has not sought recognition by

the ABMS. Instead, the organization's strategy seems to be to build recognition of certification as a valuable credential by insurance carriers, employers, and Workers' Compensation Boards, with the eventual hope that not only will carriers/employers seek out CIMEs, but that state WCBs will make the credential mandatory for physicians performing IMEs [6].

Relations between the organizations have changed over time. For several years, the ABIME and AADEP were "partner" organizations. During this time, achieving Fellowship in the AADEP required passing the ABIME examination. Around 1999, however, these official ties were severed and the AADEP has developed its own examination process. While a number of practitioners have earned credentials from both organizations, at least some in the AADEP camp are of the opinion that ABIME certification is of little value, given the brief training required.

Differences between the organizations appear to reflect differences in approach rather than intent or substance. The AADEP remains within the traditional medical professional model, requiring substantial training before bestowing Fellowship status. While seeking recognition from physician peers, the ABIME appears to be more interested in demonstrating the value of its credentials directly to potential corporate clients and policymakers. ABIME certification is probably more easily understood as evidence of proficiency by prospective clients (carriers and employers) than is 'Fellowship' in an academy. Not all IMEs agree on the value of ABIME certification as evidenced by this comment by the owner of an IME company: "I feel that the ABIME certification is fairly useless—primarily a way of providing a source of income to some by "selling" insurers on the value of a useless board certification—especially the every-five-year renewal—how ridiculous—as if one forgets how to do IMEs after five years—given that they are more of an art rather than a science the premise is ridiculous" [61]. This criticism reflects a concern by some IMEs that the ABIME's orientation toward employers/clients sacrifices the "professional" quality of certification for a marketing approach.

Ultimately, however, both organizations have the same goal: to develop a cadre of physicians recognized as authorities when performing an IME or disability evaluation. To reach this goal, both organizations prescribe courses of study that they hope will standardize the performance of IMEs using the approach described earlier. More than 3,000 physicians have become CIMEs through the ABIME (6). The AADEP has more than 1,200 Fellows [7].

Networking

For most physicians, the test of the ABIME's or AADEP's effectiveness is the impact obtaining a credential has on their income. In fact, physicians are enticed to training in IME techniques and disability evaluation by the promise of enhanced income. The ABIME touts the value of certification with quotes from

"colleagues" and the insurance industry. Physicians who have earned certification declare "In three months, my referral base doubled. The biggest problem I have is the waiting list!" and "As a result of my certification by ABIME, new clients requiring IMEs have sought out my services and have enhanced my referral base." Other quotes from the insurance industry tell prospective CIMEs that their industry needs appropriately trained IMEs to turn to, and that ABIME certification will identify them as examiners the insurers will refer to. For example, the vice president for an insurance company is quoted: "We are most interested in a timely, fair, and accurate independent medical evaluation and impairment rating. Training and examiner accreditation will help achieve the consistency we demand" [6].

Credentialing organizations help credentialed physicians achieve financial goals in a variety of ways. Trainings for IMEs allow ample time for financially related topics. For example, a curriculum for a course entitled "How to be a Successful Independent Medical Examiner" given by a prominent training company promises the course will let participants in on "secrets essential to the development of a successful practice of performing independent medical evaluations." Several hours of presentations are devoted to marketing and fair and prompt compensation, the value of becoming certified, minimizing risk, and becoming efficient and successful. Organizations also publish written materials covering similar ground [62].

Connecting physicians with potential corporate clients is of crucial importance. Many trainings recognize this by setting aside time for "networking" among participants, and between participants and service and product vendors. The credentialing organizations also seek to make connections between IMEs and clients by raising the profile of their organizations and services in various venues. As an example, IMEs have collaborated with the American College of Occupational and Environmental Medicine (ACOEM) co-sponsoring and participating in trainings, and participating on ACOEM committees relevant to IME concerns. IMEs often also collaborate with local medical societies, and other groups to offer trainings and participate on committees. Collaboration with these organizations broadens the scope of contacts.

Several other mechanisms serve to network IMEs with each other, with others in related fields and businesses, and with prospective clients. Both the ABIME and AADEP offer members the opportunity to be listed in a directory which can then be accessed by potential clients searching for an IME. Journals, conferences, and internet discussion groups are other methods used to advertise the field generally, and to give individuals the opportunity to make contacts. These forums serve the additional purpose of maintaining and reinforcing the official "IME approach" among the group. In addition, the AADEP has recently expanded its membership to include other related disability professionals including chiropractors, nurse case managers, insurance claims adjustors, and vocational counselors. This move will create additional opportunities for business linkages.

Once trained and certified, physicians have developed a number of IME business niches. Many maintain their normal medical practice adding IMEs as an additional service. For some, performing IMEs is an occasional task, whereas for others it may be a major, or even the sole aspect of their practice. While many IMEs remain local in their work, some function on a regional or even a national level. This may entail travel to examine workers or review of records only. Some physicians have developed IME companies that contract with a number of doctors to provide exams to corporate clients, again with varying degrees of geographic activity.

IMEs have also branched out into "disability management." In this area, physicians review cases for long-term disability insurance carriers. Records reviews for this purpose can be done by a physician located virtually anywhere, since no examination is required. In addition, some physicians sell their services, perhaps as part of an interdisciplinary team, to corporate clients as part of efforts to reduce disability of all types in specific corporate settings. While this is obviously broader than performing individual IMEs for Workers' Compensation purposes, it is an associated function carried out by physicians with the same "IME mindset." The burgeoning IME business reflects the entrepreneurial response of physicians to corporate needs.

CONCLUSION: TOWARD AN ALTERNATIVE

The claim by IME advocates that properly trained and certified IMEs provide a public good in the sense of being valuable to society as a whole is unsustainable. Performing IMEs is a business opportunity for physicians. In order to successfully occupy this business niche, physicians must fulfill the needs of their corporate clients, needs that center around profit maximization and cost containment.

A relatively small group of physicians have gained control over the training and certification of IMEs, allowing them to define "quality." Control of the process and the content allows this group to socialize prospective IMEs in a specific way, and to convince prospective corporate clients that only IMEs trained in the manner these physicians have prescribed are qualified to perform IMEs. The IME advocates' definition of quality is contestable. This article has argued that while IME advocates can claim to have standardized the IME, they have not improved its quality. The methods and approach put forward essentially guarantee employers that a minimum of work-related disease and disability will be recognized [8].

To serve the needs of injured and ill workers, a different definition of a "quality" occupational medicine evaluation is needed along with changes in the process of "officially" recognizing and adjudicating potential work-related health conditions. In contrast to the IME approach, an alternative approach would put the patient's experience front and center as the issue that needs to be addressed.

With an understanding of "illness" as a manifestation of a dynamic interaction between an individual and his/her "environment," it maintains a focus on that "environment" as both a source of illness and, if changed, a source of healing. The concept of "environment" includes not only exposure to physical and exposure hazards, but also the economic, social, and political aspects of the workplace. On an even broader level, "environment" includes a recognition that the identification of disease and illness is fundamentally shaped by the structures and dynamics of a capitalist economic and social system. A focus on illness and environment requires the active participation of the worker/patient in both investigation and treatment, creating the potential for him or her to move from a passive object of care, to active subject working in collaboration with the clinician [63-65].

Within the current context, the possibilities for pursuing an alternative course are meager. Individual clinicians or clinics can attempt to inject elements of a worker/patient approach into the opinions they give to Workers' Compensation and in critiques of IMEs performed on "their" worker/patients. Their experiences can be documented and used to pursue changes in the system that would reduce the influence and presence of the IME approach.

Changes in the system are a longer term prospect that will occur through an aroused political movement strong enough to bring them about. The key elements of change include a severing of the financial ties between corporations and IMEs, and an increased role for workers in the investigation and adjudication of work-related health claims.

The financial dependence of IMEs on employers and insurers creates an inherent conflict of interest that should be ended. With IME remunerations at the exorbitant level that they are, employer/carriers create a strong incentive for physicians to shape their opinions in ways that are beneficial to the corporate payers. Physicians performing these examinations must be independent of the employers and insurers desiring and paying for them for them to have any legitimacy. One possibility is for the Workers' Compensation Board to recognize a panel of physicians who could perform these evaluations. The physicians would be paid by the state, with employers and insurers paying into a general fund to finance the examinations. Alternatively, a union and employer might negotiate a panel of examining physicians to be utilized for worker/patients covered by a specific contract. Merely creating these mechanisms does not guarantee a change in approach, however. In a context of corporate strength and labor weakness, employers and insurers can control or at least disproportionately influence the selection of physicians serving on these panels.

Labor strength is also necessary to challenge the idea that physicians should have the exclusive right to determine work relatedness and rate disability [46]. There is nothing inherent to medical training that gives physicians special skills in these areas, and physicians' opinions on these matters are subject to biases that are often in effect anti-worker and pro-business. It is possible to

conceive of mechanisms and processes of adjudicating claims that involve workers, unions, and injured workers, in the decision-making process. This would go a long way toward insuring that the voice of the injured worker is heard and heeded, and would diminish the influence of the employer/insurer-based biomedical approach.

As always, it is necessary to mention, even if it sounds utopian, that health care and disability reform would obviate many of the problems that injured workers face. Universal health insurance would allow injured workers unimpeded access to health care without regard to whether their condition is work-related. Similarly, national disability insurance with benefits at least comparable to Workers' Compensation and including an effective vocational rehabilitation component would allow injured workers to collect necessary benefits while facilitating re-entry into the workforce or changes in career path that promote safety, satisfaction, and maintain salary levels. Financing these systems should rely on principles of progressive taxation and of corporate responsibility for costs they create when workers are injured or made ill on the job. No doubt there would be much political maneuvering to determine what that "fair share" is, but it would take place at a level that would not impact the individual injured worker's ability to access medical and financial benefits. She or he would still be able to access health care, disability benefits, and vocational rehabilitation services, giving him or her much more of a chance to get life back on track.

Perhaps most feasible in the short term are efforts to counter the ideology that injured workers cannot be trusted to give an accurate portrayal of their situation, and that the methods advocated and practiced by IMEs are an "objective" and necessary way to get at the "truth." The present "system" of preventing, accommodating, and compensating injured workers fails them in so many ways, itself actually contributing to prolonging and increasing the severity of work-related illness. That is the story that needs to be told and re-told to ground a movement to challenge the IME ideology and replace it with practices that promote healing rather than harm for injured workers.

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Health Policy

Independent Medical Examinations: Facts and Fallacies

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Background: Independent Medical Examinations (IMEs) have protected the rights of workers in the United States since the first laws protecting employees were established in the early 1900s. There have been many social advancements and a great collective struggle over the last 100 years that have ultimately lead to justice for the injured or disabled worker.

Objective: We describe the origins of the IME as well as the evolution of both medical and social processes that have provided the legal framework for the correct practice of IMEs. This article will summarize the current medical principles, legal process, and social controversy embodying the modern IME.

Discussion: Medical professionals must adhere to the same principles of impartial and ethical conduct that they uphold in general patient care when dealing with IMEs. Although previously controversial, it is now clear following successful litigation of many physician examiners that at least a 'limited doctor-patient relationship' is created during an IME.

Limitations: The limitations of this manuscript include a paucity of the literature, lack of IME updates, and certain conflicts with guidelines by various organizations.

Conclusion: IMEs represent a valuable mechanism for determining alleged impairment and/or disability. In the current economic environment of declining reimbursement to physicians, IMEs exist outside the scope of traditional payment methods and offer competitive compensation.

Key words: Independent Medical Examination, disability, impairment, worker's compensation, injured worker, disabled worker, doctor-patient relationship

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In the United States, the history of social advocacy in favor of the injured or deceased worker from causes naturally or proximally related to their work began in the late 1800s and early 1900s in a period known as the Progressive era (1). This was a period of increasing social concern for the welfare of the labor force and the rights of the lower classes, minorities, and women (1). The first laws protecting the rights of the worker by regulations for workplace safety and compensation for injury were enacted by individual states.

Worker's compensation is a no fault system designed to protect workers who become hurt on the job or contract an illness as a result of their job, and usually entitles the worker to medical care, the payment of a percentage of wages, and certain benefits (2). The first worker's compensation law was passed in Maryland in 1902, followed by the enactment of

the first federal regulations in 1908 (3). Famous activists of this era include William Jennings Bryan, Henry Ford, Andrew Carnegie, John D. Rockefeller Jr., Theodore Roosevelt, and Franklin Delano Roosevelt (4). During the early 1900s, a national momentum with a somewhat socialist ideology led to the development of several protective labor laws including the Federal Employers Liability Act (FELA) in 1908, which protected railway workers from negligence by railway owners, operators, and fellow workers; the United States Revenue Act of 1913, which created the Federal Income Tax by way of the sixteenth amendment; the right to vote for women by way of the nineteenth amendment in 1920; the Merchant Marine act of 1920 which protected seafarers in similar fashion to railway workers; and many other legal provisions that supported the general and working public (4-6).

During this period, 12 different state worker's compensation funds were concurrently established such as the giant State Compensation Insurance Fund (SCIF) of California in 1913 and the American College of Occupational and Environmental Medicine (ACOEM) in 1915. The ACOEM was founded by a group of surgeons who were interested in protecting the health of workers in the country. For instance, the members of ACOEM identified factors that were responsible for injury to workers, educated the public about these potential dangers, and advocated both socially and legally in favor of the worker. It seems natural, therefore that the modern Independent Medical Evaluation (IME) found its roots during this time of support for the employee, and its significance grew in proportion to the rights afforded to the worker.

Despite this early national push to secure worker's protection and compensation, the rights granted to the general labor force were widely considered to be inadequate until the passing of the Occupational Safety and Health Act of 1970 (3). Although many universities and hospitals in the early 1900s described specific hazards in the workplace and reported on occupational health, this work alone was not sufficient to assist workers in obtaining adequate compensation; that is, workers were still required to litigate their claims through the courts (3,7-10). In the last 40 years, the cause of the injured worker and all disabled persons has been supported by most industrialized nations and governing bodies. For example, regulations now exist in many countries for worker's compensation claims, and laws enforce access to public buildings, restrooms, and other facilities for all disabled persons (11-13).

Scope of Independent Medical Examinations

IMEs are conducted by medical practitioners such as physicians, dentists, or chiropractors who make formal assessments within their own specialty regarding the health of a patient, document any injuries or illnesses, and then explain the natural or proximal relationship of the injury or illness to the patient's work or workplace (14). For worker's compensation, the term "causality" often refers to a greater than 50% chance that the injury or illness is related to their work or workplace, while considering any pre-existing injury and and/or diseases. The scope of the IME also extends to disability evaluations and examinations of victims of violent crime (14,15). For the purpose of this review, we will focus on IMEs conducted by physicians.

Guidelines and Controversy

There are many different standards to which the examiner must adhere when completing an IME. The most prominent of which are federal regulations set forth by the Social Security Administration, local state laws, and the American Medical Association's (AMA) Guidelines to the Evaluation of Permanent Impairment. There are also guidelines set forth by many American colleges and boards of medical specialties including the American College of Surgeons, American Society of Interventional Pain Physicians (16-20), and quite significantly the American College of Occupational and Environmental Medicine (21). In addition to many nationally created guidelines, the examiner may also consult the World Health Organizations Disability Assessment Schedules I and II, which provide an excellent simple and unified approach to the disabled patient (22).

The guidelines established by the American Medical Association must be used in accordance with legal requirements in most states when performing a disability exam in the United States (23). Examinations recommended by all specialty boards generally require assessing the degree of musculoskeletal and functional impairment and also include social and emotional impairment rating scales (15). Yet, the extent to which the social and emotional scales are actually useful is highly controversial, especially those related to the ACOEM and AMA (24).

It is widely believed that there has been undue influence of personal and corporate interests in the language of the guidelines related to IMEs (24). Corporate sponsorship of research by pharmaceutical

companies and medical device manufacturers vis a vis the occupational medicine guidelines inherently raises concerns about potential conflicts of interest (24). For example, it has been reported that many members of the ACOEM guideline committee have significant relationships to industry, lack practical expertise in the subjects about which they write specific guidelines, and serve on the committee for the purpose of financial gain (24). Furthermore, this has been a particular problem associated with the ACOEM guidelines because these documents are primarily purchased by corporations, insurance companies, and state agencies while less easily accessible to physicians (24).

Importantly, the examiner must lawfully adhere to responsible record keeping policies which include maintaining medical records for a minimum of five years from the time of examination (14). This is particularly important for IMEs given the inherent legal ramifications for the patient, liability to the employer, and the current litigious environment in which physicians practice.

Principles and Process of Conducting IMEs

1. Referral screening and contracts with third-party payers

The examiner should develop a referral screening process that judges the appropriateness of the consultation and the time frame for completion, and specifically excludes submission of a rough draft to the third party for their review. After accepting the assignment, the examiner should craft a contract outlining the policies and fee structure of the consultation (25).

2. Orientation of the claimant (patient)

Before beginning the exam, the examiner should allay any claimant fears and state the nature and sequence of the IME. The examiner should indicate that the physician-patient relationship is not confidential, and confirm the limited scope of disclosure of any medical findings to the patient (25).

3. Thorough history taking: family, past medical, military, education, and incarceration histories, and immediate and post injury care

IME examiners should consider the circumstances of the examinee's personal life, social and occupational obligations, the nature of the examinee's injuries and the effects of the injuries on the individual, and conduct a full medical history that focuses on direct or indirect effects on the claimant's current condition (25). Examiners must also carefully consider patient motivations and perceived gains associated with IMEs. For example, poor job satisfaction may lead some patients to view the IME as a means of securing financial stability without returning to work (26). Some examiners even recommend asking patients what they "think their case is worth" in a straightforward manner, to gauge how much they feel they may stand to benefit from their claim (25). Further, the examiner may need to inquire about the health of immediate relatives in order to screen for major familial illness. Some patients may feign their own illness in order to gain worker's compensation benefits for the purpose of caring for a loved one. Furthermore, because of serious illness in close family members, other patients may create or exaggerate their own illness so they can care for someone close to them. Inquiring about parents or siblings with chronic illnesses may also be useful in order to ascertain a familial pattern of disease (25). It is important for the examiner to ask about drug abuse, physical and sexual abuse, and psychiatric disorders since these conditions may contribute significantly to the patient's symptomotology (27,28). In fact, physical and sexual abuse may occur in as many as 61% of patients with chronic pain (27). Moreover, a history of sexual abuse alone exists in as many as 90% of women with somatoform disorders (29).

4. Understanding physics and biomechanics

The examiner should become familiar with the physics surrounding common injuries, especially motor vehicle accidents. For instance, one may need to keep in mind the low probability of tissue damage from low speed collisions that generate little force. Today, front and rear bumpers and crumple zones on automobiles are designed to decrease the force of impact during collisions. At the same time, airbags can be life saving at high speeds, but may cause harm in low speed collisions (25).

5. Examination

For pain physicians, this should most often include a thorough musculoskeletal and neurological examination, and should be performed in sufficient detail to permit an impairment rating according to the AMA or alternative organizational set of IME guidelines. It is important to be familiar with the degree of sensitivity and specificity of certain tests and maneuvers that are used to assess joint or neurological dysfunction (25).

6. Documentation and surveillance data review

One must review all available medical records, including relevant data from past caregivers and request additional opinions and tests when necessary. For example, if the examinee claims to have developed chronic fatigue syndrome following an accident, it may be prudent to consult a sleep expert. This consultant may consider a sleep test for the purpose of determining a remediable source of the symptoms that are unrelated to the injury, like sleep apnea (25).

7. Requesting additional information

Other important aspects of the IME include a review of all supportive documentation and a request for additional information deemed relevant by the examiner from either the referring party or the examinee. Supplemental information may include copies of a driver's license, driving records, criminal records, and past medical records that all may provide clues to the patients past habits, illnesses, and legitimacy of their claimed injuries. This due diligence enables the examiner to fully investigate the patient's behavioral patterns prior to and following injury, and aids in uncovering potential ulterior motives for influencing the outcome of the examination (25).

8. Preparing the report

In preparing the report, it is important to list the diagnoses followed by a discussion of the claim's credibility in which the examiner distinguishes between the possibility or less than a 50% chance from probability of the event's occurrence, or greater than a 50% chance of work or incident related causality (25). Subsequently, the examiner should provide opinions about the apportionment of resources, future medical care, and work restrictions related to the claim. Many examiners also include opinions on maximum medical improvement (MMI) (25). The report should be internally self-sufficient and complete; that is, the examiner should formulate conclusions based on the data contained in the report, thereby minimizing the need for follow-up depositions. The report should clearly state the responses to relevant questions and focus on the available facts of the claim so the reader can unambiguously understand the content. Furthermore, it may be prudent to add a signature on any page with text to avoid substitution or alteration of pages within the report (25).

9. Giving testimony in court

When providing depositions, it is important to remain impartial (25). The examiner must demonstrate thorough and current knowledge, listen to every question carefully, and answer completely without allowing counsel to interrupt (25). It is also critical to remain composed and not permit the cross examiner to incite anger or dismiss the testimony as subjective or based on inferior sources (25). Finally, an examiner should speak slowly and calmly, explain all technical terms, and furnish references when appropriate (25).

Implications to Medicine

Medicolegal Considerations

Currently, there is debate over the development of a doctor-patient relationship during IMEs (30). However, consensus opinion suggests that a "limited doctor-patient" relationship does indeed occur during an IME (30) and that the physician is further responsible for disclosing any medical findings that could affect the patient's health so that the patient can seek medical care elsewhere (30). This element of medical disclosure makes the medical examiner most vulnerable to litigation (31). In fact, several successful lawsuits have been litigated against physicians who have failed to comply with this requirement when the outcome led to patient injury or death (30,30-32). In order to mitigate against the risk of litigation, the examiner should inform the patient that the scope of the examination is limited, the IME cannot substitute for a standard physician examination and additional care should be sought with his/her primary care physician if necessary (30).

Before conducting an IME, physicians should ask patients to review and sign standard Release of Information Agreements in accordance with the Health Insurance Portability and Accountability Act (HIPPA). This avoids any breach of confidentiality laws when reporting the findings of the IME to the requesting parties (25,28,33).

Conflict of Interest

An important prelude to the IME includes disclosures of any socioeconomic conflict of interest that may benefit the physician directly or indirectly by means of benefits to friends, family, or colleagues (25). For instance, a previous physician-patient relationship with the claimant would be unacceptable in the context of an IME (25).

Patient Coaching

There are currently a number of organizations and websites that provide information to patients on methods of maximizing the appearance of injury and even feigning a workplace injury (25,34). For instance, these resources provide in depth coaching on the process of IMEs, the nature and presentation of common injuries, and preparatory skills for answering questions. Patient coaching may have evolved from previous worker's compensation denials that resulted from poor physician evaluation. Such denials lead to the creation of guidelines for the portrayal of "iron clad" clinical presentations of injuries that would more likely succeed in rendering a worker's compensation claim (34). Unfortunately, these resources may invite claimants to exaggerate or fake injuries in a manner that is difficult for the physician to detect (25,34).

Implications for Pain Management

Prognostic Implications

There are many factors that are of prognostic significance in determining the level of permanent disability after injury, especially with respect to pain. For instance, psychological factors represent a dominant factor in influencing the likelihood of disability; specifically, self-efficacy or one's confidence in performing an activity and in overcoming barriers to performing that activity appears to negatively correlate with the likelihood of disability (35). Contrariwise, an increase in self-efficacy correlates with reduced disability due to lowered levels of anxiety and a tendency toward greater initiative (35). Alternatively, fear avoidance correlates with increased disability, but appears to be a less statistically important correlate for worse outcome related to functional capacity and return to work (36). It is essential for the examiner to consider kinesiophobia or the irrational fear of movement, low self esteem, and depression when assessing pain because these factors may predict a worsening of long-term function (36,37).

Comprehensive Training

Similar to other professional medical work, it is desirable to obtain comprehensive training in this highly specialized area. This avoids loss of respect from clients, business associates, and colleagues; excessive legal scrutiny of the examiner's practice; and loss of billable practice time (e.g, income) while defending against angry attorneys, colleagues, or patients. Interested examiners can consider attending pain-focused training programs through the American Board of Independent Medical Examiners, and the American Academy of Disability Evaluating Physicians. Both organizations offer continuing medical education programs and certification.

Current Environment

Physicians currently face a decline in Medicare reimbursement for their services (35). This is in contrast to yearly increases in Medicare expenditures for other sectors in health care including payments to managed care organizations, hospitals, and pharmaceutical companies (38). Since reimbursement for interventional pain management services has been reduced disproportionally, performing IMEs may be an attractive method of replacing this lost income (38).

Currently, low back pain affects an estimated 80% of adults at some point in their lives and accounts for a significant portion of lost workplace productivity (39). According to some estimates, the total annual direct and indirect cost related to disability from back pain and its associated lost productivity and related legal costs may exceed $100 billion per year (41). This cost rises to $120 billion per year when all chronic pain conditions are considered along with back pain (40,41).

Pain physicians are in high demand as IME evaluators compared to other physicians because pain is a frequent reason for patient referral and pain treatment for work related disability is incorporated into the legal aspects of the IME process (14,15). Typical payments for IMEs range from $300 to $600 per hour and sometimes physicians can secure greater compensation based on more extensive specialization, greater experience with IMEs, and greater number of years in clinical practice (29,42).

Discussion

Many advances in the United States legal system have contributed to the development of a system of protection for injured workers (1,3-6). Current legislation in the form of OSHA and the Americans with Disabilities Act provides the worker with a right to a safe and accessible workplace, as well as the the right to legal recourse if injury occurs or rights are violated (11-13).

Most of the 50 states accept the AMA's Guidelines to the Evaluation of Permanent Impairment as a legal standard by which to determine disability. Although several other references for impairment determination

exist, many evaluators recommend a familiarity with the AMA document prior to initiating IMEs and especially before performing disability evaluations since it is considered a legal standard in most states (25). A physician may obtain certification to perform IMEs by studying the American Medical Association's Guidelines to the Evaluation of Permanent Impairment, and then successfully completing a course and examination administered by the American Board of Independent Medical Examiners or the American Academy of Disability Evaluating Physicians. A certification may make an insurance company or attorney more likely to request an IME from a particular physician, although there is no legal requirement for a certification in order to complete an IME. Before conducting an IME, the examiner must qualify as an expert in the field of medicine in question (e.g, psychiatry, pain medicine, radiology) and the report must be guided by the impartial and ethical standards expected by all medical professionals.

A physician engaged in conducting IMEs should be familiar with the intricacies of the patient's personal life including pertinent family and financial conditions that may influence the subject of their examination. For example, the examiner must understand the relationship between illnesses and physical, emotional, or financial difficulties that may coexist in the patient's family or close friends. A patient's past sexual and familial history may also play an important role in influencing the manifestation of certain illnesses or disorders, like depression, diabetes, substance abuse, or fibromyalgia (25). This especially relates to a family history of mental disorder and the link between physical or sexual abuse with a greater risk of somatization disorder (27,28).

Since patient awareness of IME procedure and policies has heightened and the financial gain is so high for the individual under examination, it is natural that examinees have created educational resources to optimize their "presentation" during exams. Physicians should therefore be mindful of current tactics such as exaggerating or malingering that can increase the likelihood for disability determination.

Physicians should dispel any notion that an IME is free of medical liability. Further, physicians must conform to standard record keeping and disclosure when involved with IME-associated activities. For instance, a policy of retaining medical records for 5 years (30) is advisable and disclosure of any previously unknown medical findings should be shared with the patient as well as documented (30).

Prudent physicians include a comprehensive disclaimer at the end of any report that reduces any liability of harm, states that the best possible conclusion was determined at the time the report was prepared and after considering the available information, and indicates that any new information that may surface in the future may affect the outcome of the report accordingly (25). Although certifications are not mandated by any disability evaluation board, all physicians should educate themselves on proper legal IME terminology that must be used in order to protect themselves from future litigation (43).

Costs of occupational injuries in the United States have been estimated to exceed $170 billion per year, and these costs are escalating (41). Accordingly, the assessment of injuries afforded by the IME will likely continue in an effort to offset the costs of frivolous claims and litigation. The pain medicine physician can offer a unique perspective on the evaluation of a subset of patients who frequently report pain as a prime complaint.

Summary

IME reports should always reflect a fair and thorough evaluation, and physicians should never hesitate to request supplemental documentation when necessary. A physician evaluator should apply IME guidelines for patient examination, consider influences of employers on the ACOEM guidelines, and ultimately produce an independent assessment of injury causality while reducing physician liability with appropriate legal language (24,25). The IME physician should further realize that compelling social and financial incentives may lead patients to malinger; therefore, he/she should be familiar with common strategies for deception acquired through workshops and fraudulent organizations. Examiners can educate themselves by consulting websites and referencing texts written on the topic of IME (34).

IMEs must be performed while upholding traditional standards of medical ethics and codes of conduct (30). Evaluators must remember that they have entered into a "limited-doctor patient relationship" and may be held accountable for not disclosing significant medical findings to the patient (28). Although some physician contracts limit the degree of patient disclosure, it is prudent to extend every physician-patient privilege to the claimant (28). Moreover, physicians should carefully screen their contracts to avoid such limitations on patient disclosure. IMEs represent

a service that pain physicians are uniquely trained to provide to organizations, employers, and insurers in an impartial manner; they may even serve as a means of supplemental income in light of declining managed care reimbursement (25,38).

Conclusion:

IMEs represent a valuable mechanism for determining alleged impairment and/or disability. In the current economic environment of declining reimbursement to physicians, IMEs exist outside the scope of traditional payment methods and offer competitive compensation.

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Comparative Analysis of the Independent Medical Examination Reports and Legal Decisions in Pain Medicine

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Background:

An independent medical examination (IME) is a critical process for awarding reparation for injury. However, conducting an IME in pain medicine is very difficult, not only because pain is a subjective symptom, but also because there are no proper objective methods to demonstrate it. This study was conducted to compare IME reports and the court decisions on the disability status of the patients.

Methods:

We analyzed 79 IME reports and 25 corresponding court decisions on the disability status of patients. The diagnoses, causal relationships between the patients' status and the trauma, McBride's degree of disability, the American Medical Association's impairment ratings, the estimated annual cost for future treatment, and the necessity of care-giving were compared and analyzed.

Results:

The diagnoses in the 79 cases were complex regional pain syndrome (CRPS) type I (58 cases), CRPS type II (7 cases), peripheral neuropathy (5 cases), myofascial pain syndrome (4 cases), herniated intervertebral disc (2 cases), and fibromyalgia (1 case). The types of accidents were road traffic accidents (50 cases), military injuries (14 cases), industrial accidents (11 cases), and others (4 cases). The IME reports and the court decisions stated considerably different McBride's degrees of disability (P = 0.014). However, there was no significant difference in the estimated cost for future treatment between the IME reports and the court decisions (P = 0.912).

Conclusions:

IME reports should be accurate, fair, and based on objective findings. Feedback on IMEs from the court decisions is helpful for reference use. (Korean J Pain 2010; 23: 28-34)

Key Words:

disability evaluation, pain, work ability evaluation

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INTRODUCTION

Road traffic accidents and industrial accidents can cause a large amount of physical damage and complicate the lives of the victims. More and more reparation laws have been set up and the legal process of determining the degree of impairment requires objectivity, therefore, the court requires independent medical examinations (IMEs) during the lawsuit. Although the pain disorders are not clearly recognized as impairment [1], however, there have been continuous efforts to expand the scope of impairment to include pain [2]. To reflect the current needs, the court's requests for the IME to the physicians have been increased in the area of pain medicine. However, it is difficult to objectify the amount of pain from which patients suffer because the currently available specific tests are limited. Moreover, the issue of pain assessed on the IMEs involves the victim's financial compensation and secondary gain. That is why there so much emphasis has been placed on the accuracy of the physician's IME.

Moreover, in Korea, there is no consensus on a rational standard for IMEs [3]. In pain medicine, IMEs are conducted by individual pain specialists, so there is no uniform guideline to follow and the information on the court decisions on IMEs is not shared. Physicians do not get trained in writing up IME reports, so they do not have a proper understanding of the legal value or legal interpretation of these evaluations.

Therefore, we conducted a comparative study on the IME reports and legal decision in pain medicine to determine how patients with pain are evaluated, and how the evaluations are legally interpreted, with the purpose of this study results to serve as data for future IME evaluations in pain medicine.

MATERIALS AND METHODS

After approval from our institute review board, we conducted a comparative study on the IME reports and the court decision from January 2006 to September 2009. Consecutive 79 IMEs (from 3 tertiary hospitals in the Seoul and Gyeonggi area) and 25 court decisions were reviewed. Fifty-four court cases were excluded because they were withdrawn suits, cases where a compromise solution was suggested, and unsettled cases. We got copies of the court decisions from the Supreme Court's homepage (http://www.scourt.go.kr/decide/DecideList.work) and compared them against the corresponding IME copies acquired from their respective hospitals.

The IMEs and court decisions were analyzed for the victim's gender, the age at the time of the injury, the cause for injury, the diagnosis stated in the IMEs, McBride's degree of disability and its categories [4], the American Medical Association's (AMA) impairment ratings [5], the estimated annual cost for future treatment, the estimated duration of the treatment period, the necessity of the implanting spinal cord stimulator (SCS), the necessity of care-giving and the required duration, the necessity for care-giving depending on the diagnosis, and whether the life expectancy decreases.

The statistical analysis was done with the SPSS statistics® ver. 17.0 (SPSS Inc., Chicago, USA). The mean comparisons between the IME reports and corresponding courts decision on the loss of ability to work and cost for future treatment were performed using the paired t-test after checking normality by the Kolmogorov-Smirov test. The Kruskal-Wallis test was performed for comparing the McBride's degree of disability, the AMA impairment ratings, the future annual treatment cost estimation, and the necessity for care-giving according to the diagnoses. The results are expressed as mean ± standard deviation. P values < 0.05 were considered statistically significant.

RESULTS

1. General information on the study subjects

Out of the 79 people assessed, 55 were male and 24 were female. Their ages were 35.7 ± 10.8 (range from 18 to 57) years. There were 50 cases (63.3%) of road traffic accidents, 14 cases (17.7%) were military injuries, 11 cases (13.9%) were work injuries, and 4 cases (5.1%) were miscellaneous (Table 1).

The diagnoses were 58 cases of complex regional pain syndrome (CRPS) type I (73.4%), 7 cases of CRPS type II (8.9%), 5 cases of peripheral neuropathy (6.3%), 4 cases of myofascial pain syndrome (5.1%), 2 cases of herniated intervertebral disc (2.5%), 1 case of fibromyalgia (1.3%) and the diagnoses of remaining 2 cases (2.5%) were unknown.

2. Causal relationship between the accident and the patient's status

There were statements on the casual relationship in

43 cases out of the 79 IMEs (54.4%). Among the 43 cases, 3 cases reported that the causal relationship was unclear, 34 cases recognized the causal relationship, but the degree of the causal effects was not definitely stated. Only 6 cases concretely stated the degree of the causal effects of the accident, of which 4 cases stated that the trauma was 100% due to the accident. In 2 cases of IMEs, the trauma was 30% and 70% attributed to the accident due to the pre-existing conditions of the each patient.

In the court decision, only 16 cases out of 25 (64.0%) stated the degree of the causal effects of the accidents, with a mean of 68.8 ± 19.5% (Fig. 1). In case of the patient's status was not totally due to the accident, it was attributed to the effects of pre-existing conditions or the negligence of the injured party. The reasons why the CRPS was not totally due to the accident were 1) CRPS is a rare disease 2) the accidents were negligible, the pain and damage were exaggerated by the patients and 3) it is considered unfair to request full reparation for the CRPS patients from the defending party.

3. Degree of disability by the McBride system

The degree of disability by the McBride System was mentioned in 56 IMEs. In 2 cases, 2 categories of McBride's system were applied together. Out of the 17 categories [4], the applicable categories in the IMEs were 17 cases of ankylosis of joints (30.4%), 11 cases of amputation (19.6%), 12 cases of peripheral nerves (21.4%), 10 cases of spinal injuries (17.9%), 4 cases of head/brain/spinal cord injuries (7.1%) and 2 cases of arthritis (3.6%).

For the CRPS type 1 which was the most frequent diagnosis, the McBride's degree of disability was mentioned in 39 cases, among which the most commonly applied categories were ankylosis joints in 15 cases (38.5%) amputation in 7 cases (17.9%), peripheral nerves in 9 cases (23.1%), spinal injuries in 3 cases (7.7%), head/brain/spinal cord in-

Table 1. Patients' Characteristics

Parameter		Cases
Gender	M/F	55/24
Age (yr)	35.7 ± 10.8 (Range 18-57)	
	< 20	1 (1.3%)
	20-29	24 (30.4%)
	30-39	25 (31.6%)
	40-49	20 (25.3%)
	50-59	9 (11.4%)
Types of accident	Traffic	50 (63.3%)
	Military	14 (17.7%)
	Industrial	11 (13.9%)
	Others	4 (5.1%)

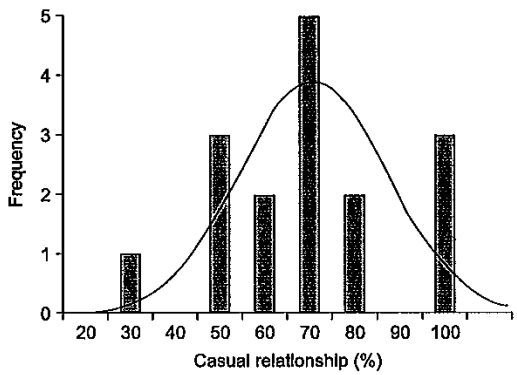

Fig. 1. Histogram of the court decision on the casual relationship between the accidents and the patients' status (%).

Table 2. McBride's Disability Categories for All Cases Referred by the Physicians

	All diagnosis	CRPS type 1	CRPS type 2	Peripheral neuropathy	MPS	HIVD	Fibromyalgia
Ankylosis of joints	17 (30.4%)	15 (38.5%)	–	1 (25.0%)	1 (25.0%)	–	–
Amputation	11 (19.6%)	7 (17.9%)	4 (66.7%)	–	–	–	–
Peripheral nerves	12 (21.4%)	9 (23.1%)	2 (33.3%)	1 (25.0%)	–	–	–
Spinal injuries	10 (17.9%)	3 (7.7%)	–	2 (50.0%)	2 (50.0%)	2 (100%)	1 (100%)
Head, brain, spinal cord	4 (7.1%)	3 (7.7%)	–	–	1 (25.0%)	–	–
Arthritis	2 (3.6%)	2 (5.1%)	–	–	–	–	–
Overall	56 (100%)	39 (100%)	6 (100%)	4 (100%)	4 (100%)	2 (100%)	1 (100%)

Each number represents the number of cases. CRPS: complex regional pain syndrome, MPS: myofascial pain syndrome, HIVD: herniated intervertebral disc.

juries in 3 cases (7.7%) and arthritis in 2 cases (5.1%).

For the cases of CRPS type II, McBride's degree of disability was mentioned in 6 cases; amputation was most commonly applied in 4 of these 6 cases (66.7%), and peripheral nerve injury was applied in 2 of 6 cases (33.3%, Table 2).

The degree of disability was on average 37.3 ± 19.6% (range from 0 to 100%). There was no significant difference for the degree of disability amongst the diagnoses (P = 0.482, Table 3). There were 19 of the cases where the McBride's degree of disability was mentioned in both the IME and the court decision. The loss of ability to work on the IME and court decisions were on average 40.4 ± 24.0% and 26.1 ± 21.5%, respectively, which showed a significant statistical difference (P = 0.014).

4. Impairment status by American Medical Association

Twenty-three IMEs mentioned the degree of physical disability based on the American Medical Association's (AMA) impairment ratings (29.1%) with the average AMA impairment of 41.3 ± 16.0%. There was no significant difference of the impairment amongst the different diagnoses (P = 0.237, Table 4).

Table 3. Degree of Disability by McBride System Estimated by Physicians

Diagnosis	Cases	Degree of disability (%)
CRPS type 1	37	37.4 ± 19.4
CRPS type 2	5	42.5 ± 5.0
Peripheral neuropathy	5	38.2 ± 13.3
Myofascial pain syndrome	4	38.8 ± 42.6
Herniated intervertebral disc	2	19.5 ± 7.8
Fibromyalgia	1	30
Overall	57	37.3 ± 19.6

There were no significant differences among groups on the degree of disability (P = 0.482). CRPS: complex regional pain syndrome.

Table 4. American Medical Association (AMA) Impairment Rating According to the Diagnosis

Diagnosis	Cases	AMA impairment rating (%)
CRPS type 1	16	44.8 ± 17.2
CRPS type 2	4	40.5 ± 3.0
Peripheral neuropathy	2	22.5 ± 9.2
Herniated intervertebral disc	1	27.0
Overall	23	41.3 ± 16.0

There were no significant differences among groups on the AMA impairment rating (P = 0.237). CRPS: complex regional pain syndrome.

5. The degree of disability according the enforced ordinance for special privileges and support to the war veterans

Out of 14 military injuries of soldiers who received trauma in military service and demand special privileges and support by the enforced ordinance, only 12 mentioned the degree of disability in the IME; 6 cases were level 5 (50.0%), 5 cases were level 6 (41.7%) and 1 case was level 7 (8.3%).

6. Estimated cost for future treatment and the expected duration of treatment

The annual cost for future treatment and the expected duration of treatment were mentioned in 55 IMEs (69.6%). The average amount was 4,805,244 KRW/year (range from 338,480 to 9,093,380 KRW/year (Fig. 2). The expected duration of treatment was mentioned in 47 of the cases (59.5%). 'Life-long treatment' was stated the most frequently for 43 cases. Treatments lasting 1 year, 2 years, 3 years and 5 years were all mentioned once.

We compared the differences in the costs for future treatment for each diagnosis; CRPS type I was 5,083,681 KRW/year, CRPS type II was 4,744,395 KRW/year, peripheral neuropathy was 4,626,000 KRW/year, myofascial pain

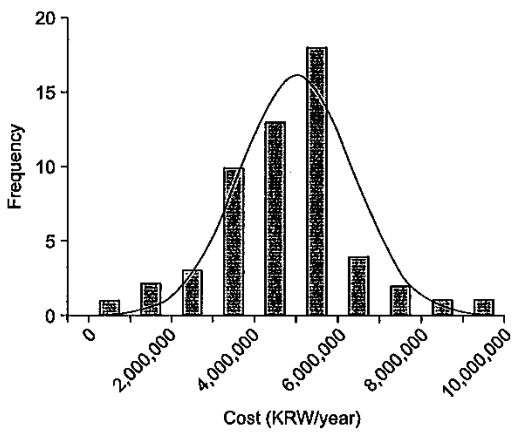

Fig. 2. Histogram of cost for future treatment estimated by the physicians (Korean won/year).

syndrome was 2,863,403 KRW/year and herniated disc was 2,177,920 KRW/year. The cost differences between the diagnoses were not statistically significantly (P = 0.770).

Court decisions that recognized future treatment costs were around an average of 4,901,786 KRW/year (range from 2,232,832 to 10,072,720 KRW/year), showing no statistical difference with those estimated by the IMEs (P = 0.912).

7. Need for implanting a SCS

Before an IME was conducted, 28 cases already had SCS implanted, among which 4 cases of SCS were removed due to no effect. Therefore at the time of IMEs the remaining 24 cases had permanent SCS.

Thirty cases of IMEs stated that there was a need for implanting SCS and 5 cases stated that it was unnecessary.

Despite the anesthesiologist's opinion that there was a need for the implantation of a SCS, the court ruled in 2 cases that it was unnecessary on the basis of the evaluation by a physician from a different field.

8. Necessity of care-giving

Forty-three IMEs mentioned the necessity of care-giving. Twenty-three cases stated that there was no need (53.5%), 2 cases stated that 12 hours/day of care-giving were needed (4.7%), 13 cases stated that 8 hours/day of care-giving were needed (30.2%) and 5 cases stated that 4 hours/day were needed (11.6%). Only 3 cases altogether concretely mentioned the periods of care-giving (only 1 case for 1 year and 2 cases for 3 years). And there was no significant difference for the necessity of care-giving amongst the diagnoses (P = 0.644).

Fifteen court decisions mentioned the necessity of care-giving, among which 9 stated there was no need (60.0%), 3 cases stated 8 hours/day of care-giving were needed (20.0%), 2 stated 4 hours/day were needed (13.3%) and 1 case stated that 2 hours/day of care-giving were needed (6.7%). Only 4 court decisions mentioned the period of care-giving; 2 cases of care-giving for 3 years, 1 case of 400 days of care-giving and then 1 case of care-giving for 3 months.

9. Decrease in life expectancy

Forty-nine (62.0%) IMEs stated that no decrease in life expectancy was considered due to pain, and remaining 38% of IME reports did not mention on that subject.

DISCUSSION

There has been a recent increase in law suits in the field of pain medicine and in the request of IMEs, which is good news that the awareness of the field of pain medicine is increasing. However, pain physicians now must own up to the responsibilities of the attention they are receiving. There have been debates on the objectivity of IMEs due to the physician's lack of understanding of and the gravity of the pain disorders.

The difficulties of writing up an IME report are the following: first, there is a lack of experience in conducting IMEs, the pain evaluation is very dependent on the patient's own complaints of the pain and specific objective test with positive results are rare. Even with the same diagnosis in pain disorder, the severity of pain varies and manifests differently for every patient. As a consequence, it is difficult to clearly distinguish and interpret the patient's complaints. Second, the injured party of a road traffic accident stays in the hospital longer than the defendant, and even after the complications and subjective symptoms have been resolved, the injured party stays at the hospital usually 3 times as long as long as the defendant [6]. Therefore, the IME physician must discern the examinee's compensation-related secondary gain as the examinee's interests are tied to the IME results. Third, regulations on the details of IMEs are very limited and the evaluation standards are complicated. That is why there are huge differences in IME reports depending on the IME physician and the IME medical department [3]. Due to the large differences, the courts have difficulties of trusting the IMEs, so sometimes they ask for re-evaluations to many different physicians. During our reviewing the court decision, one court chose one IME report over another because "it made a more objective evaluation of the patient's physical condition, including the calculation of pre-existing conditions attributing to the loss of the ability to work."

Besides the problems stated above, physicians are not taught how to write up an IME report, which makes the process of writing one up difficult in the first place. Because diagnosing and treatment are the main job of physicians, IMEs cause a loss in times and they require a lot of thinking.

The keys points of an IME are 1) the existence of the

causal relationship, 2) the degree of disability and 3) the estimation of future treatment cost. These three are important in calculating the reparation cost.

The recognition of the existence of the causal relationship was stated in 43 cases, of which only 6 cases stated the exact degree of causal effects. Another study on the IMEs reported to the court in the field of psychiatry [7] stated the causal relationship between the accident to the injury were concretely stated only in a third of the cases, and this most likely because it was hard to accurately assess the causal relationship. The patient's past medical insurance records can be referenced to determine the relevance of the current symptoms and pre-existing conditions. The casual relationship can then be more accurately assessed with putting aside the patient's pre-existing conditions.

There was a significant difference in the loss of ability to work between the IMEs and the court decisions on McBride's degree of disability. The bases of low estimation on degree of disability by the court decisions were 1) the damage was so small and there was conclusively no recognizable evidence of damage 2) there were no abnormal findings on the on the laboratory test, and the symptoms were very subjective because of psychological damage, and 3) due to pre-existing conditions, the causal relationship between the injury and the symptoms cannot be 100% acknowledged. We must admit that pain cannot be proven by a perfectly objective examination, yet for a pain specialist's opinion to be seriously received in court, pain medicine must be promoted and more objective examinations must be conducted and pre-existing conditions must be more carefully reviewed. In one court decision, the IME physician applied a McBride's occupational grading #6, but it was corrected to #5 by the court because it was "more appropriate". Therefore, when writing up IMEs, clarifying the physician's evaluation on the McBride's categories and the occupational grading will reduce misunderstanding.

For the evaluations of future treatment costs, there was no significant difference in the court estimation from that of the physician's. One fact to note though, is that the court decision on the treatment cost is not based on the equation (annual treatment cost × treatment period), but instead the court uses the Hoffman's calculation system in figuring out the total cost needed. Therefore, the IME physician only needs to figure out the annual treatment cost.

Court decisions differed from each other on the estimation of cost for oral medication and interventional procedures when the battery needs to be changed in the patient with effective implanted SCS. The court recognized 30-100% of the estimated cost for drugs and intervention on IME reports due to the SCS. This percentage shows that further studies and a more concrete basis for proof are needed.

There is no basis for deciding the duration future treatment when it was a certain limited period, so this requires further discuss. As a rule, to receive reparation and compensation, the disability must be permanent. In some circumstances, a temporary disability is applicable, but this is limited to spinal injury and thus temporary disability should not be applied to other injuries [3]. The estimated period for temporary disabilities can be based on arbitrary decisions of the IME physician, so the objectivity and the reenactment of the decisions on the temporary disabilities raise problems.

Other factors to consider are that 30 IMEs (38.0%) required a SCS for improvement of patient's status; however, it appears unreasonable that the rule for calculating the degree of disability should be done after the patient's reaching the state of maximal medical improvement and the stable state of being unable to expect improvement or change [8]. When the examinee needs a SCS for improvement, his disability should be reassessed after the SCS implantation and its effectiveness checked.

IMEs require significant improvement in several aspects. First, the field of pain medicine must specify the basis for IME evaluations. Past IME reports should be compiled, the most standard cases should be listed, and a basis for disabilities should be established. Second, the physicians conducting IMEs should be educated with special training. As of now, there are not many physicians who are educated on or experienced with IMEs. In fact, few medical societies in Korea have provided training programs on conducting IMEs. 'The Korean Pain Society - IME Workshop 2009' was inspirational and such workshops should be continuously hosted in the future. Third, the time and effort put into writing up an IME should be properly compensated [9]. As of now, only a small fee is charged for the physical examination in an IME report, but physicians require a rectification of this system. The current law, (Supreme Court Regulations Concerning the Standard for Appointing an IME Physician and Estimating the

Evaluation Cost Rule No.1211) sets the evaluation fee at 200,000-300,000 KRW. However, there is a consensus that this is far too low, and it needs to be increased. Of course, the rule states that "the physician should submit their request for the increase to the court and explain their reason in concrete terms before performing the evaluation when the evaluation cannot be performed under the established fee". So, active usage of this statement should be made. We encourage this, because IME physicians experience mental stress when writing up IMEs. This is partially due to the fact that McBride's degree of disability or the AMA impairment ratings are not simple enough, especially for pain medicine. For example, it is more difficult to determine disability with pain than what percentage of disability would be corresponding to the certain limitation of joint movement. Also, after the IME, courts often request back-checks to confirm the veracity of the evaluation with no compensation for them. Finally, measures to protect physicians should be established. There are cases where the plaintiff or defendant shortcuts the court and makes direct contact with the IME physician inappropriately. In the worst case, they even make physical threats against the physician.

In conclusion, IMEs should be conducted fairly with the maximum objective proof. Specialists in pain medicine should also show more interest in physical examinations and compensation medicine. IME physicians should study the IME reports presented at courts and compare them with the court decisions in order to achieve greater consistency of evaluations and to reduce the differences in opinion on the degree of disability.

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Special Contributions

American College of Occupational and Environmental Medicine (ACOEM):

A Professional Association in Service to Industry

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The American College of Occupational and Environmental Medicine (ACOEM) is a professional association that represents the interests of its company-employed physician members. Fifty years ago the ACOEM began to assert itself in the legislative arena as an advocate of limited regulation and enforcement of occupational health and safety standards and laws, and environmental protection. Today the ACOEM provides a legitimizing professional association for company doctors, and continues to provide a vehicle to advance the agendas of their corporate sponsors. Company doctors in ACOEM recently blocked attempts to have the organization take a stand on global warming. Company doctors employed by the petrochemical industry even blocked the ACOEM from taking a position on particulate air pollution. Industry money and influence pervade every aspect of occupational and environmental medicine. The controlling influence of industry over the ACOEM physicians should cease. The conflict of interests inherent in the practice of occupational and environmental medicine is not resolved by the ineffectual efforts of the ACOEM to establish a pretentious code of conduct. The conflicted interests within the ACOEM have become too deeply embedded to be resolved by merely a self-governing code of conduct. The specialty practice of occupational and environmental medicine has the opportunity and obligation to join the public health movement. If it does, the ACOEM will have no further purpose as it exists, and specialists in occupational and environmental medicine will meet with and be represented by public health associations. This paper chronicles the history of occupational medicine and industry physicians as influenced and even controlled by corporate leaders. *Key words*: American College of Occupational and Environmental Medicine; industry influence; public health; policy; conflicts of interest.

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With the passage of the Occupational Safety and Health Act in 1970 we came under public scrutiny as never before, as to how we practice occupational medicine. "Whose agent is the occupational physician—the employer's or the employee's?" The workers are the company—what's best for them is best for the enterprise.—IRVING R. TABERSHAW, MD, delivered the C. O. Sappington Memorial Lecture entitled "The Health of the Enterprise" to the annual meeting in 1977.[1]

The American Association of Industrial Physicians and Surgeons was organized in 1915 as a professional association of physicians concerned with health hazards in the workplace.[2] As a result of the positive image industrial medicine projected during the First World War, the new specialty was guardedly embraced by organized medicine.[3] Again during the Second World War, because of their contribution to wartime industry, physicians working in the war effort enjoyed a high level of esteem.[4] Moreover, industrial medicine was viewed as an attractive opportunity by military physicians returning to civilian life.[5] The transition of so many physicians to company employment was met with surprising endorsements. The AMA Council on Medical Education ventured that, "given proper compensation, professional experience should be as stimulating and attractive in industrial medicine as in other medical specialties."[6]

By 1959, renamed the Industrial Medical Association (IMA), the association had a membership of 4,000 physicians, almost as large as the American College of Occupational and Environmental Medicine (ACOEM) of today. Then, as now, the majority of IMA members practiced occupational medicine on less than a full-time basis. Only a small percentage of the members had any formal training or board certification in occupational medicine. On the other hand, most officers and Directors of the IMA and its successors were an elite group of full-time medical directors of major industrial corporations.[7,8]

Occupational physicians at that time, especially company doctors, shared the politically conservative, albeit fanciful, sentiments of Seward Miller of the Institute of Industrial Health at the University of Michigan:

> In the United States we live in a highly industrialized society. This phenomenal development has been achieved with less governmental regulation and dictation than exists in any other industrialized country. Many Europeans find it difficult to comprehend how our industries can be clean, healthy, and safe places in which to work with so little specific governmental regulation of the work environment. The answer lies in the generally excellent job American industry presently is doing in building and maintaining clean, safe, work establishments and its ever-willingness to correct hazardous practices.[9]

Albert J. Hayes, President of the International Machinists Union, saw things quite differently, pointing out the "tragic fact that although industry in the United States has made vast studies in the development and use of new substances, materials, and processes for production at profit, we appear to be far behind some other countries of the world in our interest and knowledge of the adverse effect of these substances and chemicals upon the men and women who are forced to use them in their quest for a livelihood." He added that "we shall have more common concern for occupational health when industry has to bear a more realistic share of the cost of occupational illness."[7] Asa Barnes, of the United Mine Workers, pointed out that, "Attention to proper organization and quality of medical care has become as important as financing. Medical care programs must be given a chance to develop along ethical lines."[10] George Meany, President of the AFL-CIO, tactfully summarized labor's view on occupational medical care,

> We have no urge to dictate or to control the practice of medicine, for we know that we are not competent to do so. We want only to help bring into being the kind of programs and facilities that will attract the best doctors and that will bring out the best that is in them. We favor any method of organization and payment that will enable them to practice freely as their professional judgment indicates, with no economic barriers between our members and their services.[11]

In 1959, the IMA published the first volume of the *Journal of Occupational Medicine* (JOM). Robert A. Kehoe, of the Kettering Laboratory in the Department of Preventive Medicine and Industrial Health at the Cincinnati College of Medicine, celebrated the new journal with a hopeful description of the emerging specialty of occupational medicine:

> With but few exceptions, the features which can now be recognized as milestones of substantial progress toward the present concept of this specialized form of medical activity have come into existence within the lifetime of men now actively engaged therein. It is even more significant that these milestones—the specialized professional organizations, the facilities and personnel for relevant research, the scientific and professional periodical and reference works, and the organized disciplines for professional training—have achieved dimensions that have given adult stature to occupational medicine among other medical specialties only within the past two decades.[8]

Kehoe figured prominently in the training of many company doctors. His long history of consultation with industry predicted the influence he would have on the physicians he sent into the country's major corporations. As far back as 1925, Kehoe had enunciated a distinction between expectations and conjecture from hard scientific facts on exposure outcomes. It became known as the "show me the data" mentality. As an example of its impact on occupational and environmental medicine, it led to a precedent-setting system of voluntary self-regulation by the lead industry as a model for environmental control. The mind set implicitly signaled the level of industrial responsibility for lead pollution. It established a cascading uncertainty rule by melding the concepts that uncertainty may always be found in a world of imperfect information with a highly skewed cost–benefit analysis concept. The immediate financial worth of tetraethyl lead additives became weighted against probable yet uncertain future human health hazards. Over the years, many studies were funded by the lead industry to develop a theoretical framework for the paradigm, which served as a strong defensive strategy against lead critics. It resulted in an unfettered growth in automotive lead pollution to over 270,000 tons per year in the United States and 350,000 tons per year worldwide during the early 1970s.[12]

An editorial in the inaugural issue of JOM asserted that, "From time to time editorial pieces will present and interpret the collective views of its policy makers upon matters of practice and ethics so far as these can be determined."[13] The IMA President asserted that, "With our own journal we can point up such projects, studies, and statements as are of practical concern to our membership."[14] He would later expand the role of the journal by pointing out that it had, "the requirement of keeping friends and influencing people—the public relations of the editorial function."[15] It would not be long before readers would see what he had in mind.

OCCUPATIONAL SAFETY AND HEALTH ACT (OSHAct)

Events moved swiftly, thrusting the IMA into a political and legislative storm. In 1967, J. F. McCahan of Western Electric, the IMA President, was instructed by the Board of Directors to appoint an ad hoc committee representing management, labor, education, and research to gain

their advice and counsel concerning directions the IMA might take in meeting the unmet needs in occupational health and safety perceived by the Federal government. No sooner was the committee formed than the initial Occupational Safety and Health Act (OSHAct) was introduced in Congress. The OSHAct raised serious questions about the "fairness and adequacy of workers' compensation programs in light of substantial changes in the economy, labor force, and health and safety risks at work."[16] Norbert Roberts of Standard Oil, then President of IMA, observed that, "This Act and the regulations being issued under it have immense and direct relationships to our activities and programs in occupational medicine."[17]

The IMA President and his ad hoc committee were given the responsibility of developing a position statement on the Act and of requesting the opportunity to testify before the appropriate Senate and House committees. The committee consisted of Richard Call of Union Oil, William Jend of Bell Telephone, Craig Wright of Xerox Corporation, and Mark Bond of U.S. Steel, and the Executive Director, Howard Schulz, along with the executive committee. The IMA President remarked that, "To my knowledge, this is the first time that our Association has chosen to take a stand on legislative matters which have come before the United States Congress. It may well be a beginning which will see our Association taking an increasingly active role in the development of occupational health programs to meet the needs of the ever-expanding work force."[18]

The Statement of the IMA on the Occupational Safety and Health Act was presented on March 11, 1968, by the IMA President to the Select Sub-committee on Labor of the House of Representatives. Much of the presentation was self-serving and self-congratulatory:

> In many of the major industries the programs in occupational safety and health have been developed to the point where the most important remaining problem is human failure. It is generally recognized that in many industries the worker is safer at his job than he is away from it. In almost all industries the rate of absenteeism resulting from non-occupational illness and injury far exceed that for illness and injury which is causally related to the job.[19]

The Statement supported the basic objectives of the legislation dealing with education and training, research, and grants to states. But on the critical issue of what was to be the principal activity of the Occupational Safety and Health Administration (OSHA), the IMA had, "a number of reservations about the provisions of the bill concerned with inspection and enforcement procedures."

In 1970 Congress passed the Occupational Safety and Health Act (OSHAct), creating the Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), and the Occupational Safety and Health Review Commission (OSHRC). With enactment and implementation of the OSHAct, the IMA realized that more involvement with the legislative process would be required than an occasional appearance at a Congressional hearing. A Committee on Legislation was appointed by IMA President Norbert Roberts of Standard Oil, made up of three members, J. F. McCahan of Western Electric, T. E. Allen, and H. H. Golz of the American Petroleum Institute (API). The Committee on Legislation inaugurated the IMA Report as an insert in each issue of their journal. The content of these reports summarized important events and legislation provided under contract by the Center for Political Research, described by the IMA President as, "a most respected source of in-depth reporting, research and analysis of U.S. Federal government activities."[17] The Committee on Legislation and the JOM editor chose to report summaries of legislation with which they agreed, and to report in greater detail on the legislative attempts by organized labor with which they disagreed.[20] Environmental issues were also presented to give IMA members insight into legislative proposals they and their employers might oppose. At the same time various strategies were nuanced for future consideration or action.

Marcus Key, a long-time consultant to the petrochemical industry, was appointed in 1971 by President Richard M. Nixon as the first Director of the National Institute for Occupational Safety and Health (NIOSH). Key moved to establish an advisory committee to expedite the development of emergency standard recommendations for hazardous substances. The committee would be composed of six members: two each from labor, industry, and government. This tripartite formula, developed in Europe by international agencies, would eventually be shown to provide industry with a substantial advantage over competing interests in the legislative process.[21,22] The IMA Report stated the opinion that, "There seems little likelihood that either the Senate or House will pass a toxic substances control bill this session."[23]

OCCUPATIONAL HEALTH STANDARDS

The Industrial Medical Association noted with alarm the rising recognition of "threshold limit values" as health standards in industry. The TLVs were introduced in 1946 by the American Conference of Governmental Industrial Hygienists, drafted by a committee of industrial hygienists, toxicologists, and chemists. By 1952, the term TLV itself had still not been defined, and no documentation had been published to support the growing list of recommended exposure limits for air contaminants at work. At a meeting of the IMA Committee Chairmen on April 24 that year, Dr. Frank Princi exclaimed, "Most of the TLVs are picked out of

a hat, 95 percent are on the basis of animal experiments only, and we are faced with ridiculous standards. Is there a doctor among the group that puts out these standards?"

There was then one doctor on the TLV Committee, Dr. Arthur Vorwald of the Saranac Laboratory, an industry consulting group in upstate New York. Vorwald had just been honored with the Merit in Authorship Award by the IMA for "Experimental Studies on Asbestosis," published in 1951. In preparing this paper, Vorwald had removed all reference to cancer and tumors at the direction of industry sponsors of the research, but this would not come out until decades later. What, if anything, Vorwald said in defense of the TLVs was not recorded in the IMA meeting minutes, though he was one of 27 identified as present at the discussion.

The TLV Committee quickly proved its limits posed no threat to business from being overly strict. In the case of toluene, the TLV was set at a level (200 ppm in air) that was "dangerous to their own safety and the safety of the operation," according to Esso's Dr. Horace Gerard, writing in 1956, citing a 1942 study. The toluene TLV was unchanged eight years later, when Esso's Dr. Robert Eckardt wrote to raise concern that not only was the toluene TLV excessive, but the TLV for xylene (also 200 ppm) could cause "severe irritation (and) impairment of reaction time." These TLVs were lowered to 100 ppm in 1967 (xylene) and 1973 (toluene).[24,25]

Industry doctors would find the TLV Committee scientifically uncritical in accepting their suggestions. Union Carbide Associate Medical Director Carl Dernehl was able to get TLVs he recommended based on "industrial experience" accepted for tungsten compounds and diphenylamine in 1966–67. Dow's Dr. D. J. Killian was able to get the TLV committee to accept the limit he recommended for ethyleneimine, based on two sentences in his letter relating a phone conversation he had had with a doctor at BASF in 1973.[26] Owens–Corning Fiberglas Corporation Medical Director Jon Konzen noted in a 1969 internal memorandum that TLV Committee member Dr. Paul Gross was "representing the interests of fibrous glass manufacturers in trying to get the current limit raised to that of an inert dust."[27]

There were plenty of reasons for criticizing the TLVs from a medical standpoint. The Documentation of Threshold Limit Values, first published in 1962, included minimal reference to medical literature. It remained the case that few doctors were on the TLV Committee, and the volunteer work of the committee was incomplete in citing reference articles on which exposure limits could have been better based. But the limits were not interfering with business as usual, and the companies had a professional body saying these limits were more or less safe for workers, a guarantee the companies would not have dared make. States without air-sampling analysis laboratories began listing the TLVs as advisory limits in their "regulations."

A British asbestos industry doctor, John F. Knox, observed in 1960 after visiting his company's U.S. subsidiary, "The legislative framework under which industries operate in the U.S.A. makes it difficult for me here to follow the lines of thought which prompt action over there in the matter of standards of industrial practice. In many industries, the employers seem so far in front of legislation as to have created a special code of practice for themselves."[28]

The men who ran the corporations had uses for the TLVs, and they regarded company doctors as hired help. Corporate lawyers had envisioned what would later be called the "TLV defense" to liability by 1935, before there were TLVs or even professional associations of industrial hygienists.[29] The company doctors kept their misgivings about TLVs and their hurt professional pride to themselves, at least publicly, while the workers paid for their abandonment by the occupational medicine profession. By the 1970s, "TLV" had become the generic term for occupational exposure limits for air contaminants, and corporate toxicologists were on the TLV Committee writing the documentations of the TLVs for their own companies' products.

NIOSH established that all TLV determinations were part of an "interim" standards package that was not subject to the requirement of the OSHAct that all employees be notified when exposed to "hazardous substances or agents." Organized labor objected to this shrewd, industry-friendly maneuver, but the issue of employee notification was effectively stymied and would remain so for some time to come:

> It has been estimated that NIOSH, at peak capacity, can annually turn out 20–25 standard criteria documents upon which permanent standards are based (this year, 1971, they may produce 10). Even where the NIOSH process is shortened, the OSHA administrative procedures for promulgation can conceivably take over a year. Although these are maximum time constraints and many 6(b) standards will no doubt be promulgated in shorter time periods, the entire process is time consuming and must be considered in light of the fact that NIOSH's incomplete list of toxic substances now numbers some 9,000. But, under the present procedure and budgets, it will be some time before even those few hundred substances for which there are TLVs receive permanent status.[30]

ENVIRONMENTAL HEALTH STANDARDS

The IMA, through its journal, spoke out dismissively against regulation and enforcement as a means of addressing environmental as well as occupational health issues. In 1973, Harold H. Golz, of the American Petroleum Institute, wrote a scathing critique of the

EPA's Position on the Health Effects of Airborne Lead. He listed no affiliation for himself, giving only a K Street address in Washington, D.C. Golz asserted that,

> Indeed, slanted statements that appear with disturbing frequency throughout the document make it anything but an objective evaluation of the "latest scientific knowledge"; it is rather a paper of advocacy better suited to adversary proceedings. Public health officials, pediatricians, and lead experts everywhere accept 40 µg/100 g as the upper limit of the normal range of blood lead. Levels above this limit are generally considered to be evidence of a degree of exposure which might, if continued, result in adverse effects. Levels below this limit are considered to be evidence that hazardous exposures have not occurred. The 40 µg standard itself has a substantial built-in safety factor, having been chosen to protect children. Lead poisoning in adults does not occur at blood lead levels of less than 80 µg/100 g and most cases of lead poisoning in children are usually associated with much higher blood lead levels. It may therefore reasonably be concluded that 10 µg/100 g to 40 µg/100 g is the range of normal for humans, children as well as adults, newborn as well as pregnant women.[31]

Irving R. Tabershaw, Editor of JOM, enthusiastically supported the Golz critique of the EPA. He wrote that,

> The evaluation by Dr. Golz of the EPA position paper brings to the fore the potential for irreparable damage that can be done by an irresponsible or unethical determination of a hygienic value which affects our whole society. Its impact is not only economic but involves more important matters such as anxiety, fear, and even hysteria regarding possible exposures and adverse health effects. The professed intent of the document is informing the lay public as well as the scientific community. This makes it more incumbent on the government agency to be careful in its implications and statements—a scientist will find the flaw—the layman has no such critical facility.[32]

Whereas virtually true at that time the implication of this statement written in the early 1970s and held by elite industry scientists then and now was that the health and safety arms of the government should not intrude into, impinge upon, or otherwise disrupt the usual practices of industry, which were not considerate of workers. Irving Tabershaw's involvement with the Chemical Manufacturers' Association (CMA) began in 1973, at the time he lauded the publication by Golz. Many ACOEM officers and directors, including Golz, also served on the CMA Occupational Health Committee.

A few JOM readers could see that the journal was publishing API propaganda. Golz had stated that, "Removing the lead from gasoline will require higher aromatic content of gasoline and/or the use of other anti-knock compounds of potential toxicity and probably higher combustion temperatures with an increased level of NOx in the exhaust."[31] Ephraim Kahn and John Goldsmith, public health physicians with the State of California, responded, "This is a complex deception because leading petroleum industry officials and control officials have made statements which take an opposite position and so has the Department of Commerce."[33] Early warnings were ignored by industry, and as leaded gasoline became more profitable, scientists willing to support industry were financed as guardians of the scientific criteria for lead's health impacts. In efforts to protect their profits, industry executives falsely claimed there was no alternative to leaded gasoline. Fifty years passed before scientific, court, and regulatory challenges had any influence. When independent research finally emerged, the results were damning enough to support an international phase-out of leaded gasoline.[34,35]

The role of the lead industry and especially the Ethyl Corporation in lead research is presented in detail in William Graebner's chapter in *Dying for Work*. Graebner states that although industry "engineered the development, dissemination, and perception of knowledge concerning the lead hazard through the Kettering Laboratory, seemingly independent organizations like the American Public Health Association and the American Medical Association digested that science and attested to its worthiness."[36]

CRITERIA DOCUMENTS

The OSHAct placed on the Department of Labor the responsibility to promulgate health standards and on NIOSH the responsibility to develop the criteria on which these standards were to be based. Criteria documents produced by NIOSH on specific chemical and physical agents were published in subsequent issues of JOM to keep readers informed about new health standards. IMA President Thomas Ely, of Eastman Kodak, felt that IMA members should review and critique all draft criteria documents. He proposed a list of IMA members with expertise in the subject areas, "so that when drafts are received, no time will be lost in determining to whom they should be sent."[37] A disturbing pattern emerged where IMA members who were corporate medical directors employed by the industries that would be most affected by health standards wrote the opinions that were published in the journal.

Criteria documents were developed and published by a consulting firm in California owned by JOM Editor Irving R. Tabershaw and W. Clark Cooper. Both men commented typically favorably on the scientific value of the criteria documents as developed and published in JOM by their employee, Michael D. Utidjian, who also served as JOM Department Editor. During this period,

and subsequently after Tabershaw–Cooper Associates was acquired by Equitable Environmental Health, part of the liability insurance giant, the company was a contractor to the Chemical Manufacturers' Association (now the American Chemistry Council) and derived substantial income from activities related to industry efforts to counter the development of benzene, vinyl chloride, titanium dioxide, and other chemical health and safety standards.[38,39] Companies that funded the work by Tabershaw–Cooper included American Cyanamid, AMOCO, ARCO, Bethlehem Steel, Dow Chemical, DuPont Chemical, Ethyl Corporation, EXXON, Firestone, General Tire and Rubber, BF Goodrich, Goodyear, WR Grace, Great American Chemical, Gulf Oil, Gulf & Western, Hooker Chemical, Kerr-McGee, Mobil, and Monsanto. There is neither discussion nor mention of this conflict of interest in JOM or in its publication of the many criteria documents developed by its journal editor and staff. Later, Michael Utidjian became Corporate Medical Director of American Cyanamid.

The NIOSH Criteria Document for a Recommended Standard for Occupational Exposure to Inorganic Lead faced extensive industry criticism from Ralph Smith and Kenneth Nelson of the American Smelting and Refining Company (ASARCO).[40,41] The Criteria Document for Coke Oven Emissions was critiqued by Robert Halen of the Jones Laughlin Steel Corporation.[42] The Standard for Toluene was reviewed by Neill Weaver of the American Petroleum Institute.[43] The Standards for Xylene and for Benzene were reviewed by Robert Eckardt of Exxon.[44,45] The Standard for Toluene Diisocyanate was critiqued by Utidjian and Tabershaw.[46] Tabershaw's partner, Clark Cooper, critiqued the Standard for Chromic Acid.[47] In each case, the Director of NIOSH dutifully thanked the IMA for "valuable and constructive comments."[48]

Tabershaw was in a position to publish in JOM the studies conducted by his firm, with full control of the peer-review process. The studies of vinyl chloride led to a disclosure of their questionable science in a chapter entitled "Damn Liars" in the book by Gerald Markowitz and David Rosner, titled *Deceit and Denial: The Deadly Politics of Industrial Pollution.*[49] The timeline of vinyl chloride cancer studies reveals the extent to which Tabershaw–Cooper colluded with industry to serve the purposes of the vinyl chloride manufacturers. NIOSH would eventually challenge the research methods devised and results obtained by Tabershaw–Cooper and the CMA. Through it all, JOM continued to develop its reputation as the "journal of negative studies," or, as others put it, the "journal of industry propaganda." In 1980, Irving Selikoff and others introduced the *American Journal of Industrial Medicine,* which broke the virtual corporate monopoly on journals in occupational medicine and rapidly became the most respected American journal in its field.

The criteria documents were intended to be a major function of NIOSH. In this set of documents, orchestrated by ACOEM and JOM, NIOSH provided an evaluation of the literature, proposed control measures, and recommended upper limits for exposures, recommended exposure limits (RELs). By the early 1980s, few of these documents were being produced, making the entire exercise nearly meaningless. The process was largely subverted from the very start, and ACOEM and JOM played pivotal roles in the subversion.

WORKERS' COMPENSATION REFORM

During the period leading up to the passage of the OSHAct, there was considerable concern in the insurance industry that the Federal government was moving toward a takeover of the workers' compensation system. The IMA Report on the National Commission on State Workmen's Compensation Laws, authorized by Section 27 of OSHA, expressed the optimistic view that,

> There is substantial belief among interest groups and congressional committee staffs that the eventual report of this commission will not call for any significant shift in Federal role in state Workmen's Compensation programs, either in prescribing benefit levels or performance standards for state Agencies. The Senate Labor Committee, at whose behest the Commission was authorized in the Act, appears to accept this likelihood.[50]

The IMA Report gave extensive reporting of the insurance industry moves to adjust some of the deficiencies of the workers' compensation system. The IMA Report overtly opposed the recommendations of the National Commission, and stated that,

> If the commission recommends Federal legislation establishing minimum standards, then it will have to wrestle with problems of implementation and appropriate standards. Such a recommendation would be opposed by the insurance business, state and possibly medical interests (IMA Report No. 4, 1971).[50]

The AMA Council on Industrial Health agreed with IMA to oppose the federalization of the workmen's compensation system, and instead of reform, suggested that,

> State workmen's compensation laws which are now under an evaluation study by the president's National Commission are being viewed with the intent of some reform. This presents the united medical profession with an unusual opportunity to use its resources in advocating uniform administrative medical criteria. In addition, as a neutral group, a united medical profession is also in an exceptional position to recommend knowledgeable physicians as independent, non-partisan expert witnesses before the bar as panel members or consultants to the medical advisory department. These and other recom-

> mendations would help reduce the number of false claims; improve the medical aspects of adjudication, quality of medical care and rehabilitation; encourage the prompt return of the injured worker; and advocate a healthier industrial environment.[51]

Organized medicine got what it pressed to achieve. After failing to act on threats to nationalize worker's compensation, the National Commission disbanded and never met again.[52]

FROM CRITIQUE TO OBSTRUCTION

The IMA was renamed the American Occupational Medical Association (AOMA) and, by 1977, was widely recognized as an opponent of governmental efforts to regulate occupational health and safety. The next and second Director of NIOSH, John Finklea, had written to the AOMA requesting that occupational diseases be reported to NIOSH. The organization referred his letter to the AOMA Occupational Medical Practice Committee. The committee reported that it, "favors the reporting of incidents or cases, but its preference is to report to the AOMA and/or to the Journal of Occupational Medicine. The AOMA Board adopted the position recommended by the Occupational Medical Practice Committee."[53] This presumptuous position would allow the AOMA to select and slant what they would or would not make known in JOM and disregarded state laws requiring reporting of occupational diseases to health departments..

In 1977, OSHA set off a firestorm of industry opposition by proposing a generic approach to streamline the regulation of carcinogens. The AOMA Position Statement on OSHA's Generic Approach to Carcinogen Rulemaking was prepared by Robert Eckardt, Director of Research and Environmental Health for Exxon Corporation, and former IMA President. Although unanimously endorsed by the Board of Directors of AOMA, the Statement is written in the first person singular, and was delivered to an OSHA hearing by Dr. Eckardt. He began his testimony with the comments,

> The OSHA proposal "Identification, Classification and Regulation of Toxic Substances Posing a Potential Occupational Carcinogenic Risk," is a useful concept in rulemaking. However, in establishing this three-category approach, OSHA has made a number of simplifying assumptions which affect the scientific or technical validity of the proposal and hence its suitability.[54]

Eckardt went on to deliver a lecture to the OSHA hearing on carcinogenesis, suggesting that OSHA and NIOSH lacked the necessary staff to accomplish carcinogen rulemaking.

> OSHA should make provision for the availability of an expert scientific advisory committee. The function of this committee would be to review all of the available data both animal experimental and human epidemiological and render a judgment as to whether a particular compound constitutes a risk to man, and if so what the degree of that risk is.[54]

In summing up his testimony, Eckardt opined,

> Although I am sympathetic to what OSHA is trying to accomplish with their proposal, I think they have grossly oversimplified the extremely complex question of occupational carcinogenesis. I would urge, therefore, that OSHA seriously reconsider their proposal in the light of the comments that have been made in this presentation. I would urge that modification be made in their proposal which more accurately reflect the present state of our scientific knowledge concerning carcinogenic mechanisms and the risks of cancer development in the workplace as a result of occupational exposures. Provision should also be made to take cognizance of scientific advances which will be made in the future. Finally, required medical monitoring of employees potentially exposed to carcinogens should remain optional until the nature of the carcinogen response to be monitored has been carefully defined.[54,55]

Later, Eckardt accused OSHA of using "obfuscation, smear tactics, and straw men," as tactics applied to anyone who opposed OSHA's proposal.[56] Industry created an entirely new trade organization to fight the generic carcinogens rule, the American Industrial Health Council, which lasted until 2000.

The delay tactics were certainly not new to industry obfuscation. Industry was very successful, for example, in delaying new health and safety rules on benzene exposures when the Supreme Court rendered their opinion in 1980 that OSHA had failed to consider or recognize the benefits of their risk calculations. This changed and caused significant delays in regulating and promulgating safety standards of chemicals thereafter.[57,58]

Paul Kotin, of Johns–Manville Corporation, with controversy rising in the all-time peak year of asbestos sales in the United States, joined many others of the IMA in attacks on government regulators. Delivering the Sappington Lecture at the IMA annual meeting in 1973, Kotin said,

> Survival of the free enterprise system as we know it will depend in a very large measure on a successful resolution of the differences between government and the private sector in the new areas of regulation involving health, safety, consumer protection and environmental quality. The stark reality is that the legislative mandate to OSHA demands that standards be set and enforced now, despite inadequate knowledge and experience in this area. As a result of this mandate, the processes involved in the setting of standards and in establishing mechanisms for their enforcement have reflected both the stresses and

> strains typical of crises and the zealousness characteristic of crusades.[59]

Robert Eckardt was the Editor of JOM when the Kotin speech was published.

The AOMA was now involved in legislation at many levels. Attorney Dennis J. Barbour was retained in 1978 on a part-time basis to represent AOMA in Washington. He asked the Association to place priorities on areas of major concern for his guidance in monitoring the activities of congressional and regulatory groups.[60] What he would hear was a constant refrain from the members who represented major corporations. While the interests of major corporations were being served by the association, the officers sought to present an entirely different image. In testimony presented at an informal public hearing conducted by OSHA, AOMA President Alan A. McLean, of IBM, and President-Elect Robert S. Hockwald, of Pacific Telephone, stated that, "We do not represent 'big business.' We are aware of physicians who are now or have been employed by industry who appear to place the interest of their employer ahead of those of their employee–patients. This, too, is abhorrent."[60]

Speaking to the AOMA meeting, Bruce Karrh, Corporate Medical Director of E. I. du Pont de Nemours & Company, offered that,

> OSHA has used its rule-making power to intrude into matters traditionally reserved to the collective bargaining provisions of the National Labor Relations Act. This has resulted in an undermining of the role of the occupational health professional. During the past decade and especially in recent years, OSHA has developed standards without considering all the scientific data or the costs to industry. The agency has interpreted its mandate as meaning that all risks in the workplace must be eliminated at any cost. Consequently, many standards have been issued that either carry extremely high price tags due to their detailed requirements or lack price tags altogether because cost analyses were never conducted. No dollar value should ever be assigned to an individual's life or limbs. But since precious occupational safety and health resources are finite, it is important that we determine which are the more serious problems and what is the least expensive way of reaching a specific level of protection.[61]

Despite the rhetoric about no dollar value on a human life, the motive, to stall regulatory processes reducing exposures of workers to hazardous and life threatening chemicals and dangerous practices, is clear. Karrh's statement that OSHA did not consider cost in promulgating standards, and his use of the omission as a defense against government regulatory efforts, were not correct. The Act states that OSHA standards must be feasible from the standpoint of technology as well as economics. Therefore, OSHA must show that any standard it promulgates is economically feasible to all sectors of industry. An economic analysis was required and was done for every standard promulgated since the beginning of the OSHA Act.

In 1978, the AOMA Board endorsed an Open Letter to OSHA expressing its concern about the quality, and therefore, the credibility of government sponsored health research performed by NIOSH and OSHA:

> The image of NIOSH as an objectively honest, scientifically competent agency dedicated to the protection of the worker is essential to ensure the national confidence and support necessary to bring about that objective. Incompetent or biased studies which lead ultimately to confusion, controversy and erosion of credibility within the scientific community, do irreparable harm to that image. The human and animal studies cited by NIOSH and OSHA in the recently concluded beryllium hearings are shocking examples of the shoddy scholarship and questionable objectivity utilized in making important national regulatory decision.[62,63]

THE BERYLLIUM EXAMPLE

The failure of government to protect workers from beryllium exposure through appropriate regulation serves as an instructive and real example. The influence AOMA, now ACOEM, had on the government's action on beryllium exposure had long-term repercussions. During the 1970s, because of the pressure put on NIOSH by the beryllium industry, the OSHA Beryllium Standard was never completed. Expert witnesses representing Brush Wellman, Inc., for the beryllium industry testified at the OSHA hearings in 1977, then met at the Cosmos Club in Washington and drafted a letter to then DHEW Secretary Joseph Califano asserting that there had been "shoddy NIOSH research."[62] Then Brush Wellman complained to the Secretary of Energy that a new beryllium standard would force it out of business and reduce the availability of beryllium needed for national defense. In turn, the Secretary of Energy under President Jimmy Carter, James Schlesinger, wrote to the Secretary of Labor, Raymond Marshall, stating that, "our national defense could not afford a new beryllium standard."[64]

Under continuing pressure from the beryllium industry, the government convened the "CDC Beryllium Review Committee," and subsequently an "HEW Beryllium Review Committee" to evaluate the results of the epidemiologic study related to beryllium exposure and lung cancer that Joe Wagoner, Peter Infante, and others had conducted while at NIOSH.[65–67] "This whole episode was set up in part as a kangaroo court in an attempt to impugn the integrity of Joseph Wagoner as a scientist because he was so outspoken about industrial carcinogens." The controversy continued to 1980–1981, two to three years after Wagoner was forced out of NIOSH and Infante left in frustration. "If you can't

win on the data, impugn the integrity of the investigator has been the history of industry's dealing with government scientists that it cannot control."[68] Infante contends that, "NIOSH has never recovered to date in that it has never since been as outspoken about occupational carcinogens and the lack of concern by industry about the health of its workers."[68]

In 1981, HHS Secretary Califano made a decision that OSHA had adequate documentation on the carcinogenicity of beryllium for it to complete the rule making.[69] In 1993, IARC concluded that beryllium is a human carcinogen, based on its ability to cause lung cancer in exposed workers. In 1997, The Beryllium Industry Scientific Advisory Committee published in JOM an article entitled, Is Beryllium Carcinogenic in Humans? The corresponding author of the article was David C. Deubner, Medical Director of Brush Wellman, Inc., joined by Paul Kotin and other ACOEM members. The article concluded that the empirical evidence for possible carcinogenicity in humans of beryllium and beryllium compounds is contained in studies that merely show that, "the SMR for lung cancer is elevated by 12%—an elevation that is not statistically significant."[70] The members of the scientific advisory committee proceeded to criticize the IARC and various investigators for missing the fact that, "Sulfuric acid mist and vapors are established lung carcinogens in humans. The apparent effect of 'beryllium and beryllium compounds' was the result of exposure to sulfuric acid mist and vapors that acted as typical confounding variables." The authors then pointed out that,

> Distinguishing causality from subtle confounding influences represents the essence of epidemiology. The history of the discipline is replete with revisions and reconsiderations brought about by the recognition of previously unsuspected confounders. Failure to recognize subtle confounding is unavoidable in epidemiology, but failure to act upon its recognition is inappropriate.[70]

Interestingly, Kotin was an industry representative who lobbied unsuccessfully at the IARC February 1993 meeting that declared beryllium a human carcinogen. Infante attended as the official representative of OSHA. IARC responded in an editorial pointing out the bias in the industry committee's point of view, and explained how carcinogenicity studies in animals provided powerful support for the biologic plausibility of a causal association in humans between exposure to beryllium and beryllium compounds and the subsequent development of cancer. IARC also found the two most recent cohort studies especially convincing as evidence for an increased risk of lung cancer.[71]

To date, a new beryllium standard (including a new exposure limit) has not been completed because of the pressure from the beryllium industry. Newman and colleagues in 1999 and Public Citizen Health Research Group in 2001 petitioned OSHA for an Emergency Temporary Standard for Beryllium on the basis of workers developing chronic beryllium disease (CBD) as a result of exposure levels below the current OSHA standard. In response to the petition by Newman and colleagues, OSHA indicated that it would publish a proposed Beryllium Standard by December 2001. In the Federal Register Notice, OSHA acknowledged that 5–15% of beryllium workers are sensitized and will develop CBD.[72] We now know that workers exposed to a cumulative amount of beryllium allowed by one day of exposure to the current permissible exposure limit (PEL) of 2 $\mu g/m^3$ have developed CBD, an often fatal disease. In a commentary published in Lancet, Infante and Newman issued a plea for OSHA to promulgate a new beryllium standard.[73] Because of the influence of Brush Wellman on the Bush Administration, nothing has been done by OSHA to issue a new beryllium standard to protect workers from developing both CBD and lung cancer.

John L. Henshaw, Assistant Secretary of OSHA under President George W. Bush, and formerly with Monsanto Company, spoke at the ACOEM annual meeting in 2003. The members sat quietly as Henshaw stated that, "OSHA developed general guidance information. for employers on beryllium in 1999 and more specific information related to dental labs in 2001. Last fall the agency requested comments on whether it should update the standard."[74] But the reality is that Brush Wellman has too much influence over OSHA, and ACOEM is pleased and not at all concerned that industry exercises this level of influence over government agencies. Brush Wellman, the world's leading producer and supplier of beryllium products, has systematically hidden cases of beryllium disease that occurred below the threshold limit value (TLV) and lied about the efficacy of the TLV in published papers, lectures, reports to government agencies, and instructional materials prepared for customers and workers. Such corporate malfeasance is perpetuated by the current market system, which is controlled by an organized oligopoly that creates an incentive for the neglect of worker health and safety in favor of externalizing costs to victimized workers, their families, and society at large.[75]

Infante takes the position that,

> It is absurd for the Assistant Secretary of OSHA to state that "we're considering" whether or not to develop a new standard in light of all of the scientific information about the inadequacy of the current 2 $\mu g/m^3$ limit in relation to exposure amounts documented to cause chronic beryllium disease (CBD). His comments are a sad statement about the state of affairs at OSHA in protecting beryllium-exposed workers, and all workers in general.[76]

Secretary Henshaw went on to say that, "Today, I want to focus particularly on cooperative programs and our

efforts with your organization. The new head of our Office of Occupational Medicine is a board-certified occupational physician active with ACOEM. So, OSHA clearly values the relationship with ACOEM."[74,77] Industry has been particularly successful in delaying lower beryllium standards for worker protection since the still-permissible exposure level for beryllium is 2 $\mu m/m^3$ air for an eight-hour period. That limit was adopted by OSHA in 1971 and was based on a 1949 standard set by the Atomic Energy Commission. OSHA began work on setting a new standard in 1975, but it was never completed.[78]

Central to the perverse relationships of ACOEM to industry and government is the practice of legislative advocacy. ACOEM's government relations activities maintain a strong presence in Washington, DC, to ensure that its members' interests are represented in key decisions affecting occupational and environmental medicine, particularly workplace standard setting.[79] The ACOEM made direct payments of $175,621 to Kent and O'Connor in 2004, and $136,550 in 2005. Relatively few ACOEM members are even aware of the legislative lobbying activities of the organization. The activities are approved and reported to the Executive Committee and the Executive Director, and the corporate physicians who actively pursue such positions. Some private practice and academic occupational physicians may hold office in ACOEM, but not until they prove that they are reliable enablers of the corporate medicine agenda. The actual history of ACOEM legislative activities remains a carefully guarded secret.

WORKERS' COMPENSATION MEDICINE

ACOEM is the principal organization of occupational physicians in the United States.[80] As such, ACOEM is central to one of the country's worst failures in public health history. A majority of occupational injuries and fatalities are not reported by physicians to workers' compensation and the victims fail to receive the benefits required by law.[81–85] The U.S. Department of Labor estimated in 1980 that "only five percent of those severely disabled from an occupational disease receive workers' compensation benefits."[86] A number of studies since that time show that no substantial change has occurred in the rate of reporting of occupational diseases.[82,85,87] ACOEM has failed to address the problems of workers' compensation and the under-reporting of occupational illnesses and diseases. Any change in workers' compensation will have an immediate and lasting effect on the earnings of ACOEM members, and proposed changes will continue to cause the organization to mobilize its resources to prevent any legislative efforts adverse to the interests of its corporate clients and employers.

Although occupational and environmental diseases are "often viewed as isolated and unique failures of medical science, the government, or industry to protect the public, they are in fact an outcome of a pervasive system of corporate priority setting, decision making, and influence."[21] The costs associated with occupational medicine have traditionally been paid for by employers, and that has provided strong incentives for physicians and other providers to cooperate with industry in keeping these costs at a minimum. Occupational medicine today is an ill-defined practice of medicine that is largely subversive to worker health and subservient to business interests. Political and economic pressures from employers, insurers, and business organizations have made the workers' compensation system dysfunctional, and have corrupted the practice of occupational medicine.[88,89]

Practice Guidelines

ACOEM's answer to the serious deficiencies of workers' compensation medicine is to sponsor the development of a formulaic practice of medicine that is acceptable to the insurance industry.[90] The book *Occupational Medicine Practice Guidelines* is touted as the "gold standard" in effective occupational medical practice,

> Presenting essential consensus and evidence-based information, it provides step-by-step guidelines and practical aids to help busy practitioners manage growing caseloads. The book is intended to improve: 1) the efficiency with which the diagnostic process is conducted; 2) the specificity of each diagnostic test performed; and 3) the effectiveness of each treatment in relieving symptoms and achieving a cure. This edition represents the current, collective voice of health care professionals who treat work-related injuries and occupational diseases.[91]

In 2004, the State of California required that its utilization review in workers' compensation cases be "consistent with" the ACOEM's Practice Guidelines. ACOEM is pleased with the adoption by California workers' compensation of the Guidelines—which, "has given the specialty a far more visible role in quality of care issues."[92] The Rand Corporation performed a rigorous review of the ACOEM Practice Guidelines and concluded that, "the evidence base for treatment recommendations for non-surgical conditions were of uncertain validity and comprehensiveness." The majority of the experts conducting the Rand study felt that, "California could do a lot better by starting from scratch." Nonetheless, in March 2004, the ACOEM Practice Guidelines were implemented in California on an interim basis. Since that time, Rand reports that payers appear to be interpreting and applying the ACOEM guidelines inconsistently, suggesting that this allows cost savings, not quality of care, to be the primary result of its adoption.[93]

Physicians who have been excluded from workers' compensation by competitors who also serve as

enforcers of the ACOEM Practice Guidelines are considering legal action. Many actions by professional associations, including those that tend to have the effect of excluding competitors or groups of competitors, are subject to antitrust scrutiny. As a general proposition, an association may be liable under Section 1 of the Sherman Act, 15 U.S.C. § 1, for engaging in exclusionary conduct intended to harm providers of products or services that pose a potential competitive threat to its members. Indeed, courts have found professional associations or societies liable for unreasonable exclusionary behavior, including behavior growing out of the adoption of standards, practice guidelines, and the like.[94,95]

OCCUPATIONAL CANCER

NIOSH estimates that well over 20,000 cancer deaths and 40,000 new cases of cancer each year in the United States are attributable to occupation.[96] These numbers are underestimates, given that cancers most often manifest after workers, retirement and follow-up is less than complete or consistent. Ex-workers dying of "old age" are rarely autopsied for other underlying or concomitant reasons for death. Some insist that within the dwindling blue-collar workforce as many as 25% of workers exposed to carcinogens will get cancer directly from their workplace exposures. Although occupational cancers are totally preventable, workers continue to be exposed to carcinogens, possibly because few cases are reported, are awarded benefits, or are successful in litigation, so employers escape their workers' compensation obligation.[97–99] Lorenzo Tomatis, former Director of the International Agency for Research on Cancer in Lyon, France, has published extensively on chemical carcinogenesis. Many of these articles are in the public health area of primary prevention, where ACOEM should be active.[100–102] With the exception of cancers caused by exposures to asbestos, less than 1% of occupational cancer cases ever receive workers' compensation benefits from employers.[89] These tens of thousands of deaths every year are not inevitable. They could be avoided, sometimes quite easily, if employers agreed to replace carcinogens with nontoxic or less toxic substances or if they conducted appropriate training and enforced elementary prevention measures. Often simple engineering changes geared toward reducing exposures to industrial carcinogens can lead quickly to less hazardous levels.

If ever there was an area of concern in occupational health that ACOEM could address with authority, it is occupational cancer. As many as 15,000 of the 100,000 commonly used industrial chemicals are carcinogenic to humans. Millions of U.S. workers are exposed to substances that have been tested and found to be carcinogens in animal studies, yet less than 2% of chemicals in commerce have been adequately tested for carcinogenicity.[96] This appalling fact goes largely ignored by ACOEM and its members, and by governmental health and regulatory agencies.

IARC lists 101 known humans carcinogens, of which 19 are present in poorly defined exposure circumstances—typically work situations such as aluminum production, coke production, iron/steel founding, and the rubber industry—with many of the remaining 66 human carcinogens being industrial chemicals or metals such as 4-aminobiphenyl, benzene, benzidine, beryllium, 1,3-butadiene, cadmium, chromium, formaldehyde, 2-naphthylamine, nickel, and vinyl chloride. Moreover, and often ignored, IARC lists 69 additional agents as being carcinogenic to humans. Six are present in industrial exposure circumstances, including art glass, glass containers, and pressed ware manufacture, carbon electrode manufacture, and petroleum refining. Chemical exposures include acrylamide, benzidine dyes, chlorinated toluenes, 4-chloro-ortho-toluidine and ortho-toluidine, diethyl and dimethyl sulfate, epichlorohydrin, ethylene dibromide, glycidol, lead compounds, styrene-7,8-oxide, tetrachloroethylene, trichloroethylene, vinyl bromide, and vinyl fluoride. In their next category of chemicals considered "probable carcinogenic to humans" are listed 245 agents. Thus IARC considers 167 agents (18%) out of the 932 evaluated as carcinogenic to humans. One must remember that IARC evaluates chemicals/agents only if there are published human or animal cancer data, or both.

On Labor Day, 2006, ACOEM published a checklist on "Controlling Cancer in the Workplace." ACOEM's checklist was developed in conjunction with the CEO Roundtable on Cancer, an industry group which developed the CEO Cancer Gold Standard™, a series of recommendations for employers to fight cancer, comprised of 13 accredited companies with 16 others, mostly pharmaceutical companies. The current FDA Commissioner, Andrew von Eschenbach, is a Roundtable Member.[103] The first three pillars of the CEO Cancer Gold Standard, Tobacco Use, Diet & Nutrition, and Physical Activity, address risk reduction. The fourth pillar, Screening & Early Detection, sets guidelines for detecting cancer at the early stages, and finally, the fifth pillar, Access to Quality Treatment and Clinical Trials, ensures that employees and their family members have access to the best available cancer treatment. All laudable goals, to be sure, but preventing and eliminating exposures to known and suspected carcinogens or chemicals in general are nowhere to be found.

In the introduction to the ACOEM checklist, the ACOEM President stated that,

> The identification of occupational cancers and the reduction of occupational cancer rates in the United States due to uncontrolled exposures has been a major public health success and how to do it is well known, but more remains to be done. Cancer remains a leading cause of lost productive and otherwise vital years, including among younger work-

> ers. We know that many cancers are not recognized as arising out of work because they occur years after exposure, often after retirement. We need to recommit ourselves to prevent cancer and to make work as safe as it can be, and this year's Checklist is a first step.[103]

Obviously, to say if cancer occurs years after exposure or in retirement then the cancer can not be work-related is simply false and malicious, and a tactic to circumvent legitimate compensation for work-caused/associated illnesses.

The ACOEM checklist purports to deal with cancer in the workplace. Only one thing is missing: reducing exposures to workplace carcinogens and to those mounting numbers of untested chemicals and nonspecific exposure circumstances. Also missing from the "Resources" page is any mention of OSHA, NIOSH, or EPA. However, members of the CEO include those from DHHS, NCI, FDA, CDC, and DOD. Instead of devoting their time and resources to telling people they smoke too much and don't eat well, occupational physicians, organized by ACOEM, should use this opportunity to direct more needed attention to carcinogenic exposures in the workplace. For a workplace health organization such as ACOEM to just melt into the throngs and choose lifestyle factors such as smoking and diet as the main focus of their anti-cancer campaign is, as one occupational physician put it two years ago, "an embarrassment to occupational medicine."[104]

CONFLICTS OF INTEREST

Occupational health professionals are subject to many conflicting pressures. Most of these pressures arise from the fact that employers and insurance companies fund occupational health services, and these two entities have overlapping, yet distinct, vested interests.[105–107] Industry money and influence pervade every aspect of occupational medicine. In this financially charged environment, it is difficult to find an occupational physician with the temerity to speak out on behalf of workers. Examples of intellectual and moral independence in occupational and environmental medicine are rare.

Many physicians, toxicologists, and epidemiologists employed by industry and as consultants serve as expert witnesses for the defense of industry against lawsuits initiated by injured workers and citizen victims of environmental pollution. Very few are willing to appear on behalf of workers or community citizens in claims and lawsuits brought against industry.[98,108,109] For every occupational physician willing to take a position on a controversial issue, there are many more that are eager to accept corporate payment to debate the issue, to appear in court as expert witnesses on behalf of employers, to conduct self-serving scientific investigations and the publication of industry-friendly papers, or to make biased interpretations of the findings of other investigators. Some of the most lucrative opportunities for these "expert witnesses" are in environmental lawsuits where the experts appear on behalf of companies with long histories of environmental violations.[52,110] Several recent decisions by the U.S. Supreme Court have strengthened the gatekeeper role of federal courts to consider and exclude medical testimony regarding injuries associated with exposures to toxic substances. Judges are expected to examine the basis of all expert testimony before it is introduced at trial to ensure that it meets the same standards of intellectual rigor that professionals use outside the courtroom. However, courts have been inconsistent in measuring this testimony against the standards of medical practice, especially when courts consider testimony that is not supported by clinical trials or epidemiologic studies.[111]

ACOEM provides a façade of legitimacy for these activities of its members by publishing a Code of Ethical Conduct in Occupational and Environmental Medicine.[112,113] The Code is vague and unenforceable, and although criticized by a few ACOEM members, never substantially amended or corrected.[114–116] In fact, important provisions in the Code relating to avoidance of conflicts of interest and unethical behavior were removed in 1993.[117] There is no provision for "transparency" in the Code, thus allowing ACOEM to conduct its legislative activities in total secrecy. A transparency policy has been suggested for all organizations, but is uniformly ignored.[118] Moreover, ACOEM has not required its members to sign a Declaration of Conflict of Interest when participating in the organization.

ACOEM tries to establish its relevance by issuing "guidelines for worker protection." When the U.S. Centers for Disease Control and Prevention (CDC) issued Guidelines for Preventing the Transmission of Tuberculosis in Health Care Workers, ACOEM published a mirror image document entitled, "ACOEM Guidelines for Protecting Health Care Workers against Tuberculosis."[119] Long after control measures for environmental tobacco smoke were instituted in major states and industries, ACOEM published a position statement that belatedly reviewed the scientific basis for such an action.[120] Despite the availability of many reliable literature surveys and management recommendations, ACOEM published the ACOEM Reproductive Hazard Management Guidelines, a conservative summary of reproductive risks in the workplace, and outlined how industry might address or avoid them.[121]

JOEM

The ACOEM takes industry positions on virtually all issues, and its official journal, the *Journal of Occupational and Environmental Medicine* (JOEM), is decidedly pro-industry in its editorial policy and publications.[122–124] All ACOEM members subscribe to JOEM as

part of their memberships. Any journal of occupational and environmental health should eschew corporate interests, but JOEM journalistic policy since its inception demonstrates the journal's lack of scientific objectivity. No one knows the level to which medical and scientific literature has been influenced by deliberately biased publication.[125]

Industry Favoritism

Recently, David Egilman, of Brown University, submitted a letter to JOEM that criticized a Dow-sponsored study. Egilman claimed the study had obfuscated the occupational origin of mesotheliomas that had occurred at a Dow facility, and that Dow had not informed the union of the study results. Dow investigators claimed that the mesotheliomas found among Dow workers "do not suggest an occupational etiology."[126] The study was conducted in a plant that not only had thousands of feet of pipes covered in asbestos insulation, but also used thousands of tons of asbestos in the manufacture of cells for chlorine production. Given these facts, most scientists would conclude that mesotheliomas within the worker population provided persuasive evidence of occupational etiology.[127] Egilman paid to have the letter published as an advertisement. The current JOEM Editor, Paul Brandt-Rauf, stated that the JOEM should not have published this information. Brandt-Rauf invited Dow scientists to publish a response to Egilman, but failed to publish a letter from the union president that supported Egilman's contention. He refused to consider any response by Egilman. The Dow response defended a study on worker mortality Egilman had criticized in his letter.[128]

By granting Dow scientists access to the circulation of its journal while denying the same access to Egilman and others, JOEM contributed to the cover-up of information harmful to Dow, a favoritism it shows to many corporate sponsors of research. Corporate scientists often work behind a wall of secrecy erected to protect corporate sponsors. As Egilman noted,

> This wall of secrecy is the antithesis of what science should be: an ongoing open process in which theses and data are open to examination, critique and re-examination. A reputable journal has a responsibility to eschew corporate interests and work to uncover science hidden by interests that do not prioritize the pursuit of truth.[128]

Egilman further points out that JOEM's bias not only consists of failure to publish important material, it includes the publication of studies that promote corporate interests but do not meet well-established peer-review criteria. Jennifer Sass exposed such a case wherein the toxic anti-thyroidic chemical perchlorate, used in rocket fuel, leached from military dumpsites into public drinking water sources, contaminating the water at dangerous levels in many states. The Department of Defense and its contractor Lockheed Martin used obfuscation to wage a campaign to slow or block EPA regulatory measures that might cost defense contractors billions of dollars in cleanup and liability.[129]

Marginal Peer Review Policies

A faculty member from the University of California School of Public Health in Berkeley, together with a scientist from Exponent, a consulting firm that works under contract with government and industry, published a study titled "Primary Congenital Hypothyroidism, Newborn Thyroid Function and Environmental Perchlorate Exposure among Residents of a Southern California Community" in JOEM in 2003. Lockheed, a major user of perchlorate, funded the study, which reported that "residence in a community with potential perchlorate exposure has not impacted primary congenital hypothyroidism rates or newborn thyroid function."[130] JOEM sent an e-mail to the authors rejecting the article following peer review. But after the author from UC Berkeley, a member of the journal's editorial board, contacted the Editor, he told her to ignore the rejection, that JOEM would publish the study.[128] Decisions such as this can be made in the interest of friendship, collegiality, and loyalty to industry sponsors, and often are.[125] But the goal of any scientific journal is to publish objective science, not to protect scientists from the loss of corporate consulting fees. The peer review policies at JOEM appear to be minimal, and dominated by industry-oriented scientists and clinicians.

There are only a few other journals in occupational and environmental health that have garnered the criticism leveled at JOEM. Another industry-friendly journal with little or no hesitancy in publishing pro-industry papers is *Regulatory Toxicology and Pharmacology*, edited currently by Gio Gori. It often does not identify conflicts of interest of authors.[131] Divulging industry affiliations and funding in papers and correspondences are necessary for transparency.[132–134] Even national and international governmental organizations have been slow to adopt and enforce conflict-of-interest principles and rules of conduct,[135–142] although these are being evaluated or already instituted.[143]

Scientific Fraud

One recent event is considered by many scientists and clinicians to be nothing less than scientific fraud on the part of JOEM and its editorial staff. JOEM recently published a retraction of a 1997 article authored by two Chinese scientists, Jian Dong Zhang and Shu Kun Li.[144]

The article appeared to be a reversal of an earlier study by Zhang that found a significant association between chromium pollution of drinking water and higher rates of cancer in China. After its publication, the fraudulent article influenced a number of state and federal regulatory decisions on chromium.

An investigation by the *Wall Street Journal* found that Zhang and Li were not the actual authors of the article published in JOEM.[145] The article was actually the work of ChemRisk, a San Francisco–based consulting firm whose clients include corporations responsible for chromium pollution. In this case, ChemRisk was working for Pacific Gas & Electric (PG&E), a San Francisco–based utility whose dumping of the industrial chemical chromium(VI) had contaminated the drinking water of the small town of Hinkley, California. Hinkley residents' lawsuit against the company, the subject of a popular movie, cost PG&E more than $300 million to settle.[123]

The retraction published by JOEM stated that,

> It has been brought to our attention that an article published in JOEM in the April 1997 issue by Zhang and Li failed to meet the journal's published editorial policy in effect at that time. Specifically, financial and intellectual input to the paper by outside parties was not disclosed.[145]

JOEM's retraction statement deliberately avoided the many accusations of scientific fraud. The *Wall Street Journal* article stated that, "In a black eye for scientific publishing, the medical journal that published an influential study exonerating chromium-contaminated water from causing high rates of cancer is planning to retract the article." [145] The fallibility of JOEM, and of its sponsor, ACOEM, as servants of industry is corroborated by these and many other examples.

SCIENTIFIC ADVISORY BOARDS

Corporations and industries use various tactics to obscure the fact that their products are dangerous or deadly. Their aim is to secure the least restrictive possible regulatory environment and avert legal liability for deaths or injuries in order to maximize profit. They work with attorneys and public relations professionals, using scientists, science advisory boards; front groups, industry organizations, think tanks, and the media to influence scientific and popular opinion of the risks of their products or processes. The strategy, which depends on corrupt science, profits corporations at the expense of public health.[109,146]

In 2001, the California Department of Health Services (CDHS) withdrew its chromium(VI) water-quality standard of 2.5 ppb. The standard, established in 1999, had represented a significant decrease from the prior state-legislated 50 ppb level. The State withdrew the more protective standard just three months after the publication of a report written by a "blue-ribbon panel."[147] The panel had been established in part to review findings of risk of exposure to chromium (VI). The panel's report asserted that chromium(VI) is not carcinogenic when ingested orally.[123] However, the findings of the report and the subsequent withdrawal by the CDHS of its 1999 standard were not based on valid science, but were rather the cumulative result of industrial scientific corruption by PG&E and ChemRisk.[148] In May 2007, the NTP reported the first evidence that Cr VI in drinking water caused cancers in rats and mice.[149]

Industry engages law and public relations firms to implement its protective strategy. But it becomes even more ethically serious when scientists are willing to bend scientific processes to achieve the doubt needed to forestall public health interventions. Corporate domination of the chromium(VI) toxicity "blue-ribbon panel" is emblematic of the corporate influence on science. PG&E, through a consultant scientist, managed to seed the literature with one high-profile study engineered solely to cast doubt on the toxicity of chromium (VI). In 1996, the consultant's firm, ChemRisk, advised the coalition of chrome industries of the need to create peer-reviewed pro-industry research. By midyear, the firm had no less than eight industry-supported research articles under review. Later in 2001, with an epidemiologic review based almost completely on work conducted by industry consultants, the "blue-ribbon panel," not surprisingly, concluded that,

> Taken together the epidemiological data on chromium(VI) exposure from environmental sources (as opposed to generally much higher occupational exposures) provide no support for a causal association for exposure of chromium(VI) and site-specific or overall cancer mortality for the general public.[147]

The similarity in word and intent to industry-funded documents was no accident. Industry influence drove the actions and conclusions of the panel.[150]

ACOEM members often participate on scientific advisory boards such as the PG&E panel. All too often, scientific advisory boards are not truly independent advisors, but rather groups of scientists who publish favorable research, speak for industry interests at regulatory hearings and in the press, and testify as expert witnesses in tort-litigation lawsuits. For example, the tobacco companies established the Center for Tobacco Research Scientific Advisory Board, the beryllium companies established the Beryllium Industry Scientific Advisory Committee, and the Semiconductor Industry Association established a scientific advisory board to help steer it through its defense of a widespread use of carcinogens. Likewise, industry formed a Phthalates Institute and a Formaldehyde Institute to overturn or obviate significant cancer findings in animal studies, and, for the latter, convincing evidence in humans. A

scientific advisory board can pose as an impartial, authorized scientific body while in fact furthering industry goals of generating favorable science, influencing public opinion, and avoiding liability.[109] Moreover, the experts who participate in the working groups that develop industrial health and safety standards are largely industry-supported. As an example, corporate representatives—rather than independent scientists—were given primary responsibility for developing threshold limit values (TLVs) for more than 100 substances, including at least 36 carcinogens.[26]

Another problem comes from governmental agencies' outsourcing of work to the private sector for doing research or writing evaluative reports. An example concerns the NTP that was in the process of evaluating potential reproductive hazards of exposures to the animal carcinogen bisphenol A (BPA), used primarily to make polycarbonate plastic and epoxy resins. The group chosen by the NTP to write its reproductive-risk documents, Sciences International, was discovered to have considerable contracts with industry, and was actually writing documents for industry regarding the same BPA.[151,152] The government canceled this contract in April 2007, the third year of a multiyear contract to investigate Sciences International's performance on documents on BPA and 20 other chemicals. A similar issue may exist with the NTP Report on Carcinogens, whereby background documents on chemical carcinogens are likewise prepared by a contractor.

RESEARCH

The extent of corporate-funded science is troubling because, as Egilman and Bohme have pointed out, industry funding is accompanied by a "substantial tradition of manipulation of evidence, data, and analysis, ultimately designed to maintain favorable conditions for industry, at both the material and ideological levels."[21] There is a growing loss of faith in the science of occupational and environmental medicine, toxicology, and epidemiology because so much of it is funded and manipulated by industry sponsors and published in journals that do not require disclosures of conflicts of interest.[58,153–155] The integrity of industry-funded research cannot be ensured by the current system of oversight.[125,156] When industry funds a study, even one conducted by government, research questions can be posed in such a way that the outcome is certain, or an investigation can be put in the hands of someone known to conduct studies and interpret results in certain ways.[77,157] Only recently have scientific journals begun to publish ad hominem accounts of the lucrative consultative efforts of experts, often from academic institutions, in service to various industries.[21,58,97,122,146,155] The problem is not so much that industry scientists publish skewed findings to benefit their employers, we already know this; the difficulty comes when university scientists beholden to industry publish slanted findings, and keep hidden their industry funding source connections.

One way to obtain a reliably negative result is to design a study that by limited statistical power has little likelihood of demonstrating an effect.[157] This appears to be the method of choice to obfuscate health and safety issues in the semiconductor industry.[158] It has been repeatedly used to advantage to dismiss concerns about reproductive and cancer risks. Industry-supported studies fail to show a risk when they report on mortality in the entire workforce only—managers, secretaries, sales staff, all of them – which gravely dilutes any possible health effects on the workers most likely to have high exposure levels.[159]

ERGONOMIC STANDARD

In 1992, OSHA noted that the most frequently reported disorders were associated with repeated trauma, and that many were caused by ergonomic situations. In response, OSHA began rule making for a standard to control ergonomic exposures. OSHA circulated drafts of a proposed Ergonomics Program Standard beginning in 1994.[160] Under the Standard, employers would be required to develop multifaceted programs to include prevention, education, and treatment. Early advocates pointed out that progress in preventing musculoskeletal injuries and illness would depend on the cooperation and availability of trained safety and health professionals. The design effort should be multidisciplinary, with inputs from medical personnel, engineers, ergonomists, and workers.[161]

Initially, ACOEM supported the proposed OSHA Ergonomics Standard. The final standard was published in the *Federal Register* on November 15, 2000. On the very next day, ACOEM issued a press release announcing its opposition to the final ergonomics standard. ACOEM became the only major medical association previously supporting the standard to withdraw its support. ACOEM had previously submitted several recommendations which would have established a firm medical basis for the diagnosis and treatment of musculoskeletal disorders. The ACOEM press release stated,

> Fundamental to an effective standard is a process to verify the diagnosis of a musculoskeletal disorder and to determine that the injury or disorder is directly related to workplace duties. Throughout the past two years of the rulemaking process, ACOEM has consistently urged OSHA to limit implementation of the standard only to work-related disorders for which credible scientific evidence exists. Yet, the final standard appears to require neither a medical diagnosis nor a causal assessment.[162]

JOEM published an editorial that was nothing short of a denunciatory attack on the proposed standard. The author challenged the assumption that

> OSHA-recordable musculoskeletal disorders are valid indicators of the existence of a causal biomechanical hazard. That is the basis for their charge to the employer to identify the biomechanical hazard and institute "commonsense" measures to effect a "material reduction" in "biomechanical exposure" as remedy. This is not a logical conclusion. Furthermore, it is a remedy that has disappointed for nearly 50 years and remains unproven to this day.[163]

Despite compelling evidence to the contrary, and thus for the need for an ergonomic standard, Congress subsequently overturned the regulation, folding under intense industry and industry-lobbying efforts. [164,165] ACOEM protected the stakes of its clinician members unhappy with the proposed standard by publishing the opinions of the academics among them who supported their position.

The ACOEM position is another "paralysis by analysis" action to delay standards and regulations. It is the main dodge used by industry to prevent any regulation. What standards were there by which to identify "scientifically" which injuries were occupationally caused? There is a considerable body of evidence to identify workplace ergonomic issues on a scientific basis, but ACOEM did not cite them when it reversed its position. Keyserling and Chaffin presented several analytical methods for measuring and evaluating physical stress in the workplace prior to the OSHA Ergonomics Standard. "In almost all instances in which it is found to be excessive, stress can be reduced to acceptable levels by applying ergonomic principles to the design of facilities, processes, equipment, tools, and work methods."[161] Chaffin continues to present the need to improve existing digital human models so they are better able to serve as effective ergonomics analysis and design tools.[165] Instead, the vast majority of ergonomic injuries go unrecognized and unreported.[166–169]

DRUG AND ALCOHOL TESTING

ACOEM is an enthusiastic supporter of drug and alcohol testing in the workplace. It established what it called ethical guidelines for drug screening in the workplace in 1986, and since that time has included the training of its members in testing-program management courses.[170] The ACOEM contends that, "If carefully designed and carried out, programs for the screening of employees and applicants for drugs, including alcohol, serve to protect and improve employee health and safety in an ethically acceptable manner."[171] ACOEM courses offer current and aspiring medical review officers (MROs) an opportunity to increase and update their knowledge and familiarity with changes in substance-abuse testing and federal regulations affecting the role of MROs. The courses provide an opportunity to comply with the mandatory Department of Transportation requirements of MRO training and certification.

Part of the reason drug and alcohol testing is so popular is that it is profitable to ACOEM members. Many physicians oppose the requirement that physicians do the drug and alcohol testing. In areas where testing is vital, they contend that safety personnel would be more appropriate to the task. Even some ACOEM members see the problem with this form of police medicine. Lippin asserts that, "The MRO movement and industry will be recorded in the history of our profession as an ethical low ground. Because of the failure of U.S. drug policy, a large number of occupational physicians were drawn away from therapeutics into all but exclusively policing and punitive roles."[172] Draper observes that, "some doctors protest that corporate drug testing undermines whatever credibility and employee trust they may have been able to cultivate, but that concern deserves more attention."[173] It is a matter of widespread concern that this practice of police medicine may lead companies in the future to genetic screening of workers, and other controversial tasks that are made to look acceptable because physicians are involved.

AFFILIATED ORGANIZATIONS

Many of the academic occupational and environmental medical clinics are located at teaching hospitals, where faculty members often serve as consultants to industry.[21,122,123,129] Academic occupational physicians network with other consultants in the private sector by attending the annual ACOEM meeting.[174] There, they conduct a meeting of the OEM Residency Directors, who also frequently augment their incomes by consulting with industry, acting as expert witnesses in litigation cases, and in conducting research sponsored by industry.[21,58,135] Moreover, many NIOSH and OSHA personnel participate in these ACOEM activities and meetings, and many agency employees and retirees become consultants to industry and serve as expert witnesses in litigation. This complex web of interdependencies provides collegiality and professional stature to the activity, but often masks the underlying reality that occupational and environmental health are not being well served.

Some academic occupational and environmental medical clinics are in the Association of Occupational and Environmental Clinics (AOEC).[175] In recent years, ACOEM has cultivated an affiliation with AOEC that may ultimately damage the integrity of the clinics. Many of the officers and members of the two organizations are now the same individuals, with the same conflicts of interest. The Agency for Toxic Substances and Disease Registry (ATSDR) provides more than $1 million in funding to AOEC each year to assist in research and development of initiatives.[176] AOEC is charged with developing curriculum materials for occupational and environmental health education and providing continuing education programs for primary care practitioners and other health care providers.[177] ACOEM

and AOEC often work jointly, and advance policy recommendations that go into government proposals and health directives.[112,115,177]

Because of concern about conflicts of interests, AOEC sought to develop a position on ethical conduct. It is a disappointment that AOEC turned to the International Commission on Occupational Health (ICOH) for a code of ethics to emulate. The AOEC board of directors in 1996 recommended that the organization adopt the ICOH International Code of Ethics, one noted for its entirely voluntary and unenforceable provisions.[115,118] Goodman had warned that, "A bad or shallow code is worse than none at all."[114] Goodman's warning went unheeded. Many of the same people who met on behalf of AOEC later met again, this time representing ACOEM, and followed the ICOH precedent since it had served their purposes before.[112] The ICOH is widely recognized for its support of industry.[153,178] ICOH committees have advanced the interests of asbestos mining and manufacture, chemicals, and pesticides.[179–182] The ICOH membership and activities are similar to those of ACOEM, only conducted on a global scale. ACOEM and ICOH conduct joint meetings and share common philosophies and practices.[183]

STATEMENT ON MOLD

The ACOEM Statement on Mold was introduced in 2002 as an evidence-based statement and published in JOEM.[184] The policy statement by ACOEM is that mold exposure in an indoor environment could not plausibly reach a level of exposure to cause toxic health effects. Reported to be a review of scientific literature on the subject of illnesses caused by molds and the toxins they may produce, ACOEM concluded that,

> Levels of exposure in the indoor environment, dose–response data in animals, and dose-rate considerations suggest that delivery by the inhalation route of a toxic dose of mycotoxins in the indoor environment is highly unlikely at best, even for the hypothetically most vulnerable subpopulations.

However, none of the references cited in the JOEM paper and in the ACOEM Statement on Mold arrive at this conclusion.[185,186] To form this conclusion, the authors made their own calculations from a single rodent study conducted by other investigators.

The matter of ACOEM conflicts of interest was detailed in a front page *Wall Street Journal* article, January 9, 2007, "Court of Opinion Amid Suits Over Mold, Experts Wear Two Hats: Authors of Science Paper Often Cited by Defense Also Help in Litigation."[187] The result of a six-month investigation, the *Wall Street Journal* article outlined how three authors who frequently testified in mold lawsuits as experts for the defense were specifically selected by ACOEM to write the ACOEM position statement on mold. One of the three, Bryan Hardin, had recently retired from NIOSH. The *Wall Street Journal* quoted a senior toxicologist for the Washington State Department of Health, "They [the ACOEM authors] took hypothetical exposure and hypothetical toxicity and jumped to the conclusion there is nothing there." ACOEM predictably defended its message and the authors, stating that it was not alone in its interpretation of the evidence.[188]

The issue that ACOEM refused to address was that the ACOEM Statement on Mold was written with no apparent effort to determine the conflicts of interest among the authors. One of the authors had published a review article on mold in 2000 stating that there were no health effects.[189] The authors had extensive experience as consultants to many industries and as defense witnesses in court cases. Authorship of the ACOEM Statement on Mold advanced the interests of industry and advanced the reputations with industry of the authors, who went on to aid the industry in defending against claims.

Jonathan Borak, in charge of the peer review of the ACOEM Statement on Mold, reported to the ACOEM officers and executive director in 2002,

> I am having quite a challenge in finding an acceptable path for the proposed position paper on mold. Even though a great deal of work has gone into it, it seems difficult to satisfy a sufficient spectrum of the College, or at least those concerned enough to voice their views. I have received several sets of comments that find the current version, much revised, to still be a defense argument. On the other hand, Bryan Hardin and his colleagues are not willing to further dilute the paper. They have done a lot, and I am concerned that we will soon have to either endorse it or let it go. I do not want to go to the Board of Directors and then be rejected. That would be an important violation of Bryan. I have assured him that if we do not use it he can freely make whatever other uses he might want to make. If we "officially" reject it, then we turn his efforts into garbage.[190]

In the spring of 2003, Veritox, a risk-management company that provides defense testimony in mold litigation, and of which two of the authors of the JOEM article are principals, was paid $40,000 by the Manhattan Institute to convert the ACOEM Statement on Mold into a "lay translation" to be shared through the United States Chamber of Commerce with stakeholder industries—real estate, mortgage, construction, and insurance. The authors unfairly presented the essence of the mold controversy as, "Thus the notion that 'toxic mold' is an insidious secret 'killer' as so many media reports and trial lawyers would claim is 'junk science' unsupported by actual scientific study." The Chamber of Commerce presents the benign Veritox interpretation of mold as,

> Hardin and his team of scientists provide a detailed primer on mold in A Scientific View of the Health

> Effects of Mold. Fungi, they point out, play an "essential role in the cycle of life as the principal decomposers of organic matter, converting dead organic material into simpler chemical forms that can in turn be used by plants for their growth and nutritional needs. Without fungi performing this essential function, plant and animal debris would simply accumulate." Mold is everywhere.[191]

The authors and many other ACOEM members have cited the JOEM paper and the ACOEM Statement on Mold before the courts in an effort to deny illness claims when testifying as experts on behalf of those with financial stakes in the building and finance industries.[192] Although the defense testimony has been deemed to be an unscientific nonsequitur by the Institute of Medicine[186] and by the courts,[193] ACOEM continues to deny that there is any basis in fact to dispute its position statement.[188]

To make matters worse, ACOEM and AOEC together mocked the mold victims who gave interviews to the *Wall Street Journal* in an Internet message that they falsely attributed to the *FDA News* as an April Fool's joke. Government symbols appeared on the ACOEM-AOEC message, and the contact information was a legitimate FDA phone number.[194] Principals in both organizations later sent a note of apology to the mold victims, saying that they were the sole authors, but the note of apology was not sent to the international distribution of the phony *FDA News* that was received by thousands of occupational and environmental physicians around the world, who would not be expected to notice the potential significance of an April 1 date on official FDA letterhead.[195]

As a result of the organizational biases, the close affiliations with industry, funding and contracts from government agencies, and the perverse influence over the practice of medicine and the appearances in court of company-sponsored experts, the ACOEM Statement on Mold has exerted far too much influence.[196–198] The ACOEM Statement on Mold brings into serious question the objectivity of those formulating position papers; and of equal concern, the ethics of those who profit from the position taken by ACOEM and AOEC.[199]

REFORM

The workers' compensation model of occupational and environmental medicine should be converted to a public health model. Occupational and environmental medicine, as a part of the public health infrastructure, could play a much more substantive part in bringing about a national program to deal with occupational and environmental health. Abolishing workers' compensation would remove the perverse incentives that currently undermine the practice of occupational medicine.[89] If occupational physicians were not protected from litigation by workers' compensation law, there would be much less attention paid to the interests of employers, and a lot more concern for the wellbeing of workers. It is also likely that there would be far fewer health and safety professionals working for companies. The vacuum could be filled by health and safety professionals with public health training working in settings that are much less likely to respond to the influence of corporations and insurers. Medical care for workers should be provided without question or clearance criteria by health care professionals who are not subject to influence by employers or insurers. ACOEM has supported, "changes in regulatory and procedural areas that have made recovery from injuries unnecessarily complicated in the workers' compensation system," but has not supported fundamental change to the system itself.[200]

In the area of professional competence, ACOEM publishes lofty recommendations for competencies, but is woefully short on ideas of how to provide them to its members.[201] The primary purpose of the sketchy training offered by ACOEM is to increase membership in a failing organization. The short courses and introductory sessions conducted by ACOEM at its annual gatherings are wholly insufficient, and merely provide the pretence of training and background that assures the membership of new physicians to replace the losses of recent years.

BACK TO THE FUTURE

In 1977, Irving R. Tabershaw gave an address entitled "The Health of the Enterprise" to the ACOEM annual meeting. He noted that occupational medicine had come under public scrutiny with the passage of the OSHAct. The public, according to Tabershaw, wondered whether the occupational physician was the agent of the employer or the employee. His answer became a historic defense of industry-supported medicine, and initiated the stunning growth in industry consultants in the years that followed that continues to the present.

> It is evident that the basic ethical and moral responsibility of all physicians, including occupational physicians, is to safeguard the health of the individual—the worker. There is, however, another consideration—'the health of the enterprise'—in which the employee earns his livelihood and which retains and pays for the services of the occupational physician.[1]

Although mindful of the difficulty in doing so, Tabershaw defended the practice of occupational medicine, and if anything, called for a major expansion of its breadth and scope. He referred to, "our responsibility for the total health of the enterprise, be it a corporation, a conglomerate, a multinational, a nonprofit institute, an educational institution, or a privately owned company." This clever sleight of hand drew

physicians from many settings into the same overtly conflicted role as the company doctor, even many of the academics such as himself. By his careful choice of words, he set many physicians on a road to consulting with industry, a gold mine of opportunity for hundreds of occupational physicians that is seldom mentioned with candor in occupational and environmental health circles, even to this day.[202] The ACOEM provides a professional association to the growing number of industry consultants whose work is almost never seen by the public or understood by other health care providers.

Tabershaw was an interesting choice to deliver an address on the ethics of occupational medicine practice. He had accumulated great personal wealth by consulting with many industries. His address, although dwelling on the issues that face practicing occupational physicians, managed never to mention the ethical and moral issues faced by those of his colleagues who provided advice and forensic services to companies for which they worked or consulted. The speech was about to end when he really announced his topic.

> But this lecture would not be complete if I omitted the most glaring deficiency in our ability to exercise this responsibility. While the issues of our loyalties are debated, our major failure is not what our social critics accuse us of, it is not our ethics, our moral fiber, or our conscience. But our failure, in many instances, is the lack of competence to assist management and labor to make judgments on health matters of concern to the entire enterprise.[1]

An innocent-sounding statement to be sure, yet one that sets the agenda for continued compromise of worker health for the financial benefit of "management" in the name of "the entire enterprise."

Tabershaw today would address the annual meeting of ACOEM probably saying largely the same thing, but there would be fewer company doctors in the audience, and many more occupational physicians who serve as industry consultants. The company doctor is a dying institution, viewed with ambivalence by the rest of medicine.[89,203] Public perception of company doctors as "poorly qualified and in the back pocket of management" is not without merit.[203] Each year at the ACOEM annual meeting, the company doctors confer the Corporate Health Achievement Award on one of their group, perpetuating the notion that they serve some important purpose working for companies.

Petrochemical company doctors in ACOEM recently blocked attempts to have the organization take a stand on global warming. ACOEM President Tee Guidotti observed that,

> A significant but small subset are anthropogenic global warming skeptics and blocked an effort for ACOEM to take a position on this issue. A few others oppose ACOEM taking a strong advocacy position on environmental topics, such as particulate air pollution, and blocked that. However, the membership of ACOEM is highly diverse. There are members who are motivated by values, others who do it because it comes with job. As President, I thought that it would be a better strategy in this case to lay out a values-neutral case for occupational medicine to be involved in environmental medicine. This also has the advantage of encouraging members of all persuasions to learn more about the issues and as they do, their understanding will increase. Coming at it from a strictly values orientation would provoke too much pushback at this time. Greening takes an incremental approach.[204]

ACOEM members have pointed out that the organization's Code for Ethical Conduct does not adequately address the public health orientation of occupational and environmental medicine, the need for primary prevention, medical surveillance, and worker training and protection, but to no avail.[112] ACOEM has begun to use the term "public health" when referring to the activities of its members, asserting that, "Occupational physicians are public health professionals for the employed population."[205] It is encouraging that ACOEM sees a future for occupational physicians in public health, but first it must address the issue of who pays for their services and controls their behavior. The fact is that members of ACOEM are paid by companies and by the insurance industry.

The conflict of interests inherent in the practice of occupational and environmental medicine is not resolved by the ineffectual efforts of the ACOEM to establish a code of conduct. Occupational health and safety should be placed over and above financial gain and not remain ensconced as a continuing fantasized and patronizing propaganda cover for these organizations. The specialty of occupational and environmental medicine has the opportunity to join the public health movement. If it does, ACOEM will have no further purpose, and specialists in occupational and environmental medicine will meet with and be represented by public health associations for the exclusive purpose of workers' health and safety.

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The ACOEM was approached for access to materials that exist in archives at their headquarters. The letter request was sent to the President and brought to the attention of the Executive Committee and the Executive Director. The ACOEM replied that "such access to ACOEM archives is not practical at this time."

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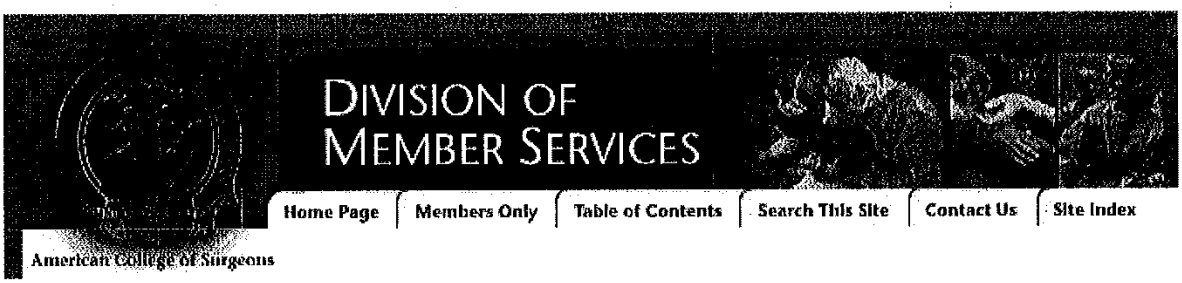

Statements on Principles

Statements on Principles

(These statements were collated, approved by the Board of Regents, and initially published in 1974. They were last revised in March 2004.)

Back to top

Preamble

Founded to provide opportunities for the continuing education of surgeons, the American College of Surgeons has had a deep and effective concern for the improvement of patient care and for the ethical practice of medicine. The ethical practice of medicine establishes and ensures an environment in which all individuals are treated with respect and tolerance; discrimination or harassment on the basis of age, sexual preference, gender, race, disease, disability, or religion, are proscribed as being inconsistent with the ideals and principles of the American College of Surgeons.

Applicants for Fellowship are evaluated for professional conduct, established reputation, and ethical standing. At the organizational meeting of the College in 1913, the assemblage strongly endorsed a resolution that Fellows of the College must practice in strict honesty and must avoid any and all forms of fee splitting. Ever since, applicants have been denied Fellowship because of unacceptable financial practices or other unethical behavior. Further, Fellows have been disciplined or expelled for violation of the Fellowship Pledge and the Bylaws of the College.

Back to top

Fellowship Pledge

Recognizing that the American College of Surgeons seeks to exemplify and develop the highest traditions of our ancient profession, I hereby pledge myself, as a condition of Fellowship in the College, to live in strict accordance with the College's principles and regulations.

I pledge to pursue the practice of surgery with honesty and to place the welfare and the rights of my patient above all else. I promise to deal with each patient as I would wish to be dealt with if I was in the patient's position, and I will respect the patient's autonomy and individuality.

I further pledge to affirm and support the social contract of the surgical profession with my community and society.

I will take no part in any arrangement or improper financial dealings that induce referral, treatment, or withholding of treatment for reasons other than the patient's welfare.

Upon my honor, I declare that I will advance my knowledge and skills, will respect my colleagues, and will seek their counsel when in doubt about my own abilities. In turn, I will willingly help my colleagues when requested.

I recognize the interdependency of all health care professionals and will treat each with respect and consideration.

Finally, by my Fellowship in the American College of Surgeons, I solemnly pledge to abide by the Code of Professional Conduct and to cooperate in advancing the art and science of surgery.

Back to top

Code of Professional Conduct

(Approved by Board of Regents June 2003)

As Fellows of the American College of Surgeons, we treasure the trust that our patients have placed in us, because trust is integral to the practice of surgery. During the continuum of pre-, intra-, and postoperative care, we accept responsibilities to:

- Serve as effective advocates of our patients' needs.
- Disclose therapeutic options, including their risks and benefits.
- Disclose and resolve any conflict of interest that might influence decisions regarding care.
- Be sensitive and respectful of patients, understanding their vulnerability during the perioperative period.
- Fully disclose adverse events and medical errors.
- Acknowledge patients' psychological, social, cultural, and spiritual needs.
- Encompass within our surgical care the special needs of terminally ill patients.
- Acknowledge and support the needs of patients' families.
- Respect the knowledge, dignity, and perspective of other health care professionals.

Our profession is also accountable to our communities and to society. In return for their trust, as Fellows of the American College of Surgeons, we accept responsibilities to:

- Provide the highest quality surgical care.
- Abide by the values of honesty, confidentiality, and altruism.
- Participate in lifelong learning.
- Maintain competence throughout our surgical careers.
- Participate in self-regulation by setting, maintaining, and enforcing practice standards.
- Improve care by evaluating its processes and outcomes.
- Inform the public about subjects within our expertise.
- Advocate strategies to improve individual and public health by communicating with government, health care organizations, and industry.
- Work with society to establish just, effective, and efficient distribution of health care resources.
- Provide necessary surgical care without regard to gender, race, disability, religion, social status, or ability to pay.
- Participate in educational programs addressing professionalism.

As surgeons, we acknowledge that we relate to our patients when they are most vulnerable. Their trust and the privileges we enjoy depend on our individual and collective participation in efforts that promote the good of both

our patients and society. As Fellows of the American College of Surgeons, we commit ourselves and the College to the ideals of professionalism.

I. QUALIFICATIONS OF THE RESPONSIBLE SURGEON

A. Competencies

A surgeon should acquire and maintain competence in all the six, necessary general competencies identified by the American Board of Medical Specialties (ABMS) Task Force on Competence and published by the Accreditation Council for Graduate Medical Education (ACGME)[1]: medical knowledge, patient care, professionalism, interpersonal communication skills, practice-based learning and improvement, and systems-based practice. A responsible surgeon should demonstrate competence in:

1. Patient Care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of good health.
2. Medical Knowledge about established and evolving biomedical, clinical, and cognate (for example, epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.
3. Practice-Based Learning and Improvement that involves investigation and evaluation of a surgeon's patient care, appraisal and assimilation of scientific evidence, and improvements in patient care.
4. Interpersonal and Communication Skills that result in effective information exchange and effective interaction with patients, their families, and other health care professionals.
5. Professionalism, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.
6. Systems-Based Practice, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively utilize system resources to provide care that is of optimal value.
   Maintenance of these competencies requires a commitment to lifelong learning through self-study, formal continuing medical education, and periodic assessment.

B. Commitment to Scientific Knowledge and Research

The surgeon should base care on the best available scientific evidence and should seek and give consultation appropriately. Responsible surgeons should uphold scientific standards, promote research, and create new knowledge and strive for their appropriate use.

C. Commitment to Maintain Fitness

The surgeon should maintain a satisfactory level of mental and physical fitness. A surgeon who becomes temporarily impaired by illness or injury, chemical dependency, fatigue, or other conditions that affect surgical judgment or performance should arrange for a qualified colleague to assume his or her clinical responsibilities until the impairment has been resolved.

D. Eligibility to Perform Surgical Procedures

The responsible surgeon's eligibility to perform a surgical procedure is based upon that surgeon's education, training, experience, and demonstrated proficiency. The surgeon should be a member in good standing of the department or service through which privileges are to be recommended. The granting and continuation of surgical privileges should be based upon the staff member's qualifications and upon a record of appropriate performance as evaluated by an established peer review mechanism and medical audit process.

Surgeons are expected to study and evaluate new procedures and to become knowledgeable of and proficient with advances that are appropriate. Technical skill alone is not sufficient to qualify a surgeon to perform new procedures. Procedural skills should be acquired within the context of in-depth knowledge about the disease to be treated.

E. Educational Requirements

Only qualified surgeons can carry out high-quality surgical care for the sick and injured patient. Qualified surgeons are those physicians who have completed a surgical residency/fellowship approved by the ACGME or the Royal College of Physicians and Surgeons of Canada (RCPSC); are certified or qualified for examination by a surgical Board recognized by the ABMS or the RCPSC; and who maintain continuing education and proficiency in their specialty. These qualifications are required for Fellowship in the American College of Surgeons.

Some hospitals permit arrangements through which a staff member can achieve surgical privileges under the tutelage of a qualified surgeon in the operating room without serving in a formal, organized, accredited residency training program. This is an undesirable situation, because it frequently results in an inadequately trained physician who may aspire to be a surgeon.

F. Confining Practice to within a Specialty

Qualification of a surgeon as a specialist carries the commitment and responsibility to conduct a surgical practice that conforms to his/her defined specialty. The appropriate surgical specialty board recognized by the ABMS or the RCPSC determines a surgeon's scope of practice. Procedures performed are dictated by the guidelines set by a specialty board. Performing procedures outside of the field defined by a specialty board mandates that a surgeon obtain additional education and experience, as well as certification where appropriate. The College may take disciplinary action against Fellows who engage in surgical procedures outside their scope of practice as previously described or who falsely advertise their training, certification, or experience.

In those instances in which no appropriately trained surgeon is available to perform a necessary procedure, it may be necessary for the surgeon to engage in practice outside of his/her specialty limits. Appropriate consultation and/or assistance should be obtained whenever possible. These decisions must always be dictated by what is in the best interest of the patient.

The medical staff and the governing body of hospitals should periodically review the quality, number, and variety of surgical procedures being performed, as well as the surgical referral policies of the staff, to ensure that the practice pattern of the community does not discourage properly trained and qualified surgeons from applying for staff membership. Performance of surgical procedures by those who are not properly trained to perform them should not be a frequent or continuing practice.

G. Surgical Assistants
The first assistant during a surgical operation should be a trained individual who is able to participate in and actively assist the surgeon in completing the operation safely and expeditiously by helping to provide exposure, maintain hemostasis, and serve other technical functions. The qualifications of the person in this role may vary with the nature of the operation, the surgical specialty, and the type of hospital or ambulatory surgical facility.

The American College of Surgeons supports the concept that, ideally, the first assistant at the operating table should be a qualified surgeon or a resident in an approved surgical education program. Residents at appropriate levels of training should be provided with opportunities to assist and participate in operations. If such assistants are not available, other physicians who are experienced in assisting may participate.

It may be necessary to utilize nonphysicians as first assistants. Surgeon's Assistants (SAs) or physician's assistants (PAs) with additional surgical training should meet national standards and be credentialed by the appropriate local authority. These individuals are not authorized to operate independently. Formal application for appointment to a hospital as a PA or SA should include:

Qualifications and Credentials of Assistants

- Specification of which surgeon the applicant will assist and what duties will be performed.
- Indication of which surgeon will be responsible for the supervision and performance of the SA or PA.
- The application should be reviewed and approved by the hospital's board.
- Registered nurses with specialized training may also function as first assistants. If such a situation should occur, the size of the operating room team should not be reduced; the nurse assistant should not simultaneously function as the scrub nurse and instrument nurse when serving as the first assistant. Nurse assistant practice privileges should be granted based upon the hospital board's review and approval of credentials. Registered nurses who act as first assistants must not have responsibility beyond the level defined in their state nursing practice act.

Surgeons are encouraged to participate in the training of allied health personnel. Such individuals perform their duties under the supervision of the surgeon.

Back to top

II. RELATION OF THE SURGEON TO THE PATIENT

A. Informed Consent
Informed consent is more than a legal requirement. It is a standard of ethical surgical practice that enhances the surgeon/patient relationship and that may improve the patient's care and the treatment outcome. Surgeons must fully inform every patient about his or her illness and the proposed treatment. The information must be presented fairly, clearly, accurately, and compassionately. The surgeon should listen carefully to understand the patient's feelings and wishes and should answer all questions as accurately a possible. The informed consent discussion conducted by the surgeon should include:

1. The nature of the illness and the natural consequences of no treatment.
2. The nature of the proposed operation, including the estimated risks of mortality and morbidity.

3. The more common known complications, which should be described and discussed. The patient should understand the risks as well as the benefits of the proposed operation. The discussion should include a description of what to expect during the hospitalization and post hospital convalescence.
4. Alternative forms of treatment, including nonoperative techniques.

The surgeon should not exaggerate the potential benefits of the proposed operation nor make promises or guarantees. For minors and incompetent adults, parents or legal guardians must participate in the informed consent discussion and provide the signature for elective operations. Any adequately informed, mentally competent adult patient can refuse any treatment including operation. When mentally incompetent patients or the parents (guardians) of minors refuse treatments jeopardizing the patient's best interest, the surgeon can request legal assistance.

When patients agree to an operation conditionally or make demands that are unacceptable to the surgeon, the surgeon may elect to withdraw from the case.

B. Scope of Surgical Care
Surgical care includes preoperative diagnosis and care; educating the patient about the risks and benefits of operation and obtaining informed consent; selection and performance of the operation; and postoperative surgical care.

C. Preoperative Diagnosis and Care
Since a team of specialists undertakes much of modern patient care, physicians who are not surgeons may often do the initial evaluation of patients. However, the surgeon bears the ultimate responsibility for determining the need for and the type of operation. In making this decision, the surgeon must give precedence to sound indications for the procedure over pressure by patients or referring physicians, or the financial incentive to perform the operation. The surgeon is responsible for the patient's safety throughout the preoperative, operative, and postoperative period, including the responsibility for eliminating wrong-site, wrong-procedure, and wrong-patient surgery.

D. The Operation - Responsibility of the Surgeon
The surgeon is personally responsible for the patient's welfare throughout the operation. The patient's surgeon should be in the operating suite or the immediate vicinity for the entire surgical procedure. There may be instances consistent with good patient care that are valid exceptions. The surgeon may delegate part of the operation to associates or residents under his or her personal direction, because modern surgery is often a team effort. If a resident is to perform the operation and is to provide the continuing care of a patient under the general supervision of the attending surgeon, the patient should have prior knowledge. However, the surgeon's personal responsibility must not be delegated or evaded. It is proper to delegate the performance of part of a given operation to assistants, provided the surgeon is an active participant throughout the key components of the operation. The overriding goal is the assurance of patient safety.

If the surgeon has to leave the operating room for a procedure- related task, this absence should be brief. Such procedure-related tasks would include review of pertinent pathology ("frozen section") and diagnostic imaging; a discussion with the patient's family; and breaks during long procedures. The surgeon must be available for immediate recall during such absences, and a qualified substitute for the surgeon must stay with the patient for the duration of the absence.

Unanticipated circumstances may occur during procedures that require the surgeon to leave the operating room prior to completion of the key portion of the operation. In this situation, a qualified substitute for the surgeon must be identified and present in the operating room promptly. Such an occurrence should be subsequently reported to the patient. Circumstances in this category might include sudden illness or injury to the surgeon, a life-threatening emergency elsewhere in the operating suite or contiguous hospital building, or an emergency in the surgeon's family.

If the surgeon leaves the procedure for non legitimate circumstances or without identifying a qualified substitute or for an inordinate length of time, the departmental and hospital administration should be informed for purposes of immediate action in the interest of patient safety and for purposes of peer review.

It is unethical to mislead a patient as to the identity of the surgeon who performs the operation. This principle applies to the surgeon who performs the operation when the patient believes that another physician is operating ("ghost surgery") and to the surgeon who delegates a procedure to another surgeon without the knowledge and consent of the patient.

E. Postoperative Care
The responsibility for the patient's postoperative care rests primarily with the operating surgeon. The emergence

of critical care specialists has provided important support in the management of patients with complicated systemic problems. It is important, however, that the operating surgeon maintain a critical role in directing the care of the patient. When the patient's postoperative course necessitates the involvement of other specialists, it may be necessary to transfer the primary responsibility for the patient's care to another physician. In such cases, the operating surgeon continues to be involved in the care of the patient until surgical issues have resolved. Except in unusual circumstances, it is unethical for a surgeon to relinquish the responsibility for the postoperative surgical care to any other physician who is not qualified to provide similar surgical care.

If the operating surgeon must be absent during a portion of the critical postoperative period, coverage should be provided by another surgeon who is skilled and who can render surgical care—including reoperation, if necessary—equivalent to that provided by the surgeon who performed the operation. The patient should be informed about this arrangement in advance.

The surgeon's responsibility extends throughout the surgical illness. When this period has ended, it is appropriate for the surgeon to relinquish the responsibility for management of the patient. When a patient is ready for discharge from the surgeon's care, it may be appropriate to transfer the day to day care to another physician.

F. Continuity of Care of the Surgical Patient
The surgeon will ensure appropriate continuity of care of the surgical patient. An ethical surgeon should not perform elective surgery at a distance from the usual location where he or she operates without personal determination of the diagnosis and of the adequacy of preoperative preparation. Postoperative care should be rendered by the operating surgeon unless it is delegated to another physician who is as well qualified to continue this essential aspect of total surgical care.

It is recognized that for many operations performed in an ambulatory setting, the pattern of the patient's postoperative visits to the surgeon may vary considerably; it is, however, the responsibility of the operating surgeon to establish communication to maintain proper continuity of care. Similar circumstances may pertain when patients travel great distances for elective surgery.

Emergency surgery performed in locations unusual for the surgeon may be necessary on occasion, but habitual or even frequent performance of operations under these circumstances cannot be condoned. If the condition of the patient permits and additional skills are required, the patient should be transported to a medical center where they are available.

G. Freedom of Choice
Patients usually choose their surgeons while surgeons, in turn, may accept or refuse patients. In emergencies or when required by law, the surgeon should provide the needed care and arrange for follow-up care. Certain circumstances (for example, the military and health maintenance organizations) restrict freedom of choice and patient and surgeons are assigned. An ethical surgeon should not participate in a system that denies serving the best interest of the patient by refusing referral out of the system.

Freedom of choice means that either the patient or the surgeon can terminate the doctor-patient relationship. When patients exercise this right, the surgeon should transfer copies of the medical record to the new surgeon or other appropriate physician. When a surgeon exercises this right, he or she should notify the patient in writing and provide copies of the medical record to the new surgeon or physician. All parties should cooperate to assure continuity of care during the transfer.

H. Confidentiality of Medical Records
Patient confidentiality is a fundamental tenet of medical care. The information in the medical record belongs to the patient but is shared with those responsible for providing care. However, in most jurisdictions, the records belong to the physician or institution that compiles and maintains them for the caregivers. Access to medical records by caregivers, insurers, government, and other parties places patient privacy in jeopardy. Nevertheless, every health care worker is honor bound to protect patients' confidentiality. United States law, the Health Insurance Portability and Accountability Act (HIPPA) in effect since April 14, 2003, provides protection of all medical records from unauthorized disclosure. All surgeons in the United States are obliged to understand and abide by HIPPA Regulations. HIPPA provides for the use of medical information in the public interest--for example, reducing public health risks, accumulating vital statistics, and so on.

Surgeons should avoid disclosing identifiable medical information to any person without authorization from the patient. Also, discussion of identifiable patient information in public places is unethical.

I. Conflict of Interest
The doctor-patient relationship requires that the patient's interests supercede all other interests, including the personal and financial interests of the surgeon, the corporate and financial interests of the payer, and the

corporate and financial interests of all vendors including pharmaceutical corporations, and the corporations providing instruments, equipment, prosthetic devices, supplies, and services. Modern marketing strategies and tactics place extraordinary pressure on surgeons. Surgeons must strive to maintain the knowledge, insight, and discipline required to keep the patient's interest above all other interests.

J. Unnecessary Operations
No operation should be performed without suitable justification. It is the surgeon's responsibility to perform a careful evaluation, including consultation with others when appropriate, and to recommend operation only when it is the best method of treatment for the patient's problem.

K. Quality Assurance
Quality assessment and improvement have become integral concepts in the effort to improve patient outcome. Hospitals have established formal committees to assess and improve the quality of patient care. Fellows are strongly encouraged to be actively involved as leaders of quality assessment and improvement activities in their own hospitals.

L. Surgical Fees
In the United States, governmental and private insurance carriers establish many professional fee schedules. Payments for services may require documentation to secure payments. Surgeons should accurately document services in compliance with governmental standards.

Fellows of the College are urged to hold to the traditional principles of ethics and compassion in providing patient care, and must not participate in any arrangements that encourage unnecessary operations or referrals that are made primarily for reasons other than optimal patient care.

Surgeons perform many services for which they do not charge, particularly when patients cannot pay. In the circumstance in which the surgeon expects the patient to personally pay a fee, he or she, or a qualified representative, should discuss the fee with the patient before the operation. Fees should be commensurate with services rendered and may be related to the economic status of the patient.

Back to top

III. INTERPROFESSIONAL RELATIONS

A. Surgeons and Colleagues
The surgeon's relationship with colleagues is often important to ensure the best care of the patient. No single physician or surgeon can be an expert in all areas of medicine. Team medicine has become the norm, and surgeons have a responsibility to work with colleagues.

Surgeons who have intimate personal relationships with individuals at their workplace should seek to minimize their supervisory responsibilities with those individuals and should not participate in their evaluation process.

B. Discrimination or Harassment
The ethical practice of medicine establishes and ensures an environment in which patients, staff, colleagues, students, residents, and all other individuals are treated with respect and tolerance. Discrimination, harassment, or creation of a hostile working environment on the basis of personal attributes, including but not limited to age, sexual preference, gender, race, disease, disability, or religion, is inconsistent with the ideals and principles of the American College of Surgeons.

C. Consultations
The surgeon is responsible for obtaining consultation for his or her patients when appropriate, and for providing consultation for the patients of colleagues when requested. These consultations may be for opinion only, to assist with management, or for the transfer of care. The patient should be informed in any instance that requires such a consultation. An appropriate report that is, by letter, by placement in a common chart or medical record should be made available to the referring physician.

D. Payment
Payment of any kind, or by any method, by the surgeon to a referring physician to induce referral of a patient (fee splitting) is unethical (and usually is illegal). Although a number of practices and procedures that represent modified and subtle forms of fee splitting now exist, surgeons are responsible for recognizing and avoiding them.

Payment to another physician for required assistance that is provided at operation may be made properly to that assistant by the patient. The patient should be informed of the nature and amount of the payment. The means

and mechanisms of such payment may be dictated by certain contractual obligations of the patient and the surgeon.

E. Relationships to Nonphysicians
Dentists, podiatrists, and chiropractors are staff members of many institutions and may ask a surgeon to assist in the management of their patients. The surgeon, as always, must be guided by the overriding principle that the patient's best interests are to be served.

Dentists
Many oral surgeons also possess MD degrees, and dental surgery has expanded to include maxillofacial surgery. In the care of patients with injuries or lesions that involve complicated dental surgical problems, oral surgeons may be an essential part of the surgical team and may act independently in the area of their special competence. In the hospital setting, oral surgeons and other dentists may be included as members of the Department of Surgery.

Podiatrists
In many hospitals, licensed podiatrists may admit patients in collaboration with physicians who will assume responsibility for the overall care of the patient. Such an arrangement must be under the supervision of the collaborating physician, with the type and extent of their operative procedures determined by the institution's credentialing process.

Chiropractors +
The American College of Surgeons declares that, except as provided by law, there are no ethical or collective impediments to full professional association and cooperation between doctors of chiropractic and medical physicians. Individual choice by a medical physician to voluntarily associate professionally or otherwise cooperate with a doctor of chiropractic should be governed only by legal restrictions, if any, and by the individual medical physician's personal judgment as to what is in the best interest of a patient or patients.

+ Adopted pursuant to settlement agreement in Wilk et al v. AMA et al, September 1987. See the Appendix for full text.

Back to top

IV. MEDICAL EDUCATION

It is vitally important for the practicing surgeon to keep up with changes and advances in the art and science of his or her field of surgery and of medicine in general. To do so, a Fellow of the College should engage in a life-long program of education and self-assessment.

A. Continuous Medical Education and Professional Development
A Fellow of the College should meet the obligation for continuous education and development using multiple pathways. The goal of continuous education and self-assessment is to assist the Fellow in providing high-quality care to the surgical patient.

The Fellow should engage in continuing educational programs to ensure a high level of skill in the domains of medical knowledge, technical proficiency, professionalism, interpersonal communications, and system-based practice.

The Fellow may achieve these educational goals by attending educational programs sponsored by the College or other scientific societies, through continuing study of current peer reviewed journals and texts, and through participation in other continuing education programs. Ideally, the Fellow should engage in a variety of educational programs, including, at least once per year, programs that allow interchange of ideas with faculty and other participants.

Acquisition of skills in new procedures should be fostered by attendance at courses with both didactic and hands on training sessions. The Fellow should seek appropriate proctoring of cases as new procedures are added to his/her surgical portfolio. Continuous self-appraisal of surgical outcomes is strongly encouraged with the goal of improving patient outcomes.

The Fellow will maintain certification by a member board of the American Board of Medical Specialties throughout his or her surgical career. Additionally, the College encourages periodic, voluntary self-assessment of medical

knowledge by non-proctored testing formats.

B. Students/Residents
It is the responsibility of surgeons, as members of the medical profession, to be "teachers" for patients, medical students, residents, and other health care professionals. Surgeons have a special responsibility to supervise resident training because of the unique characteristics of surgical illnesses and operations.

Back to top

V. SURGEONS AND SOCIETY

A. Surgical Research
Progress in medical care depends on research that often includes an informed collaboration between patients and physicians. Research should be distinguished from innovations that are departures from standard practice.[2,3,4] Although new practices that are designed solely to benefit a patient may be described as "experimental" in the sense that they are new and untested, that does not automatically place them in the category of research. Research implies an activity to test a hypothesis so that scientific conclusions may be drawn. Research should be conducted under a formal written protocol that sets forth an objective and a set of procedures designed to reach the objective. When an innovation departs in a significant way from standard or accepted practice, the innovation should be made the object of formal research at an early stage to determine if it is safe and effective. It is the responsibility of individual surgeons and of medical practice committees to see that major innovations are incorporated into formal research protocols. When applicable, humanely conducted animal studies should precede the testing of new techniques in humans. Before research programs involving human beings are undertaken, an impartial, qualified committee on human investigation should approve the protocol and the process for obtaining informed consent. Human research must meet the highest ethical standards.[2,3,4] The primary principles of patient autonomy and safety must be preserved. Every patient has the right to understand completely the nature, as well as the risks of such research activities, and has the right to withdraw from the investigation at any time.

B. Scientific Publications
Presentation of results of an investigation must be governed by the principles of ethics. All authors must assume full public responsibility for the material presented. Surgeons should first report research contributions to professional audiences of peers and/or to peer-reviewed scientific publications. Many scientific organizations, scientific publications, and research facilities have rules governing news releases and require that approval be obtained before a news release is distributed to the media. In the event that an individual patient is identified, approval should be obtained from the physician who is providing care for any identified patient and equally important, permission should be obtained from the patient. The patient's right to privacy must be protected.

C. Public Relations
A surgeon's release of material to communications media or nonprofessional publications should be designated only for education and public information. Such releases must be accurate. They must not convey false, untrue, deceptive, or misleading information through statements, testimonials, photographs, graphics, or other means, and they must contain sufficient material information so that communications are not deceptive. Releases must not create unjustified expectations of results. If treatment through a surgical procedure involves significant risks, realistic assessment of the safety and benefit of the procedure must be included, as well as the availability of alternative treatments and their benefits and hazards. Releases must not misrepresent a surgeon's credentials, training, experience, or ability, and must not contain claims of superiority that cannot be substantiated. If a surgeon is reimbursed or sponsors a communication, that fact must be made clear to the public.

D. Advertising
By law, advertising is legal; prohibitions of truthful advertising are considered to be restraints of trade. An advertisement may include information about specialty training, board certification, type of practice, office hours, languages spoken, and other such information that might assist the patient in contacting the surgeon. Advertising must be truthful, both in terms of what is said and in what is not said. Similarly, any illustrations or photographs must be truthful. Advertising should not entice patients to undergo operations if better alternative treatments are available.

E. Expert Testimony
When appropriate, physicians have an obligation to testify in court as expert witnesses. Physician expert witnesses are expected to be impartial and should not adopt a position as an advocate or partisan in the legal proceedings. The physician acting as an expert witness must have a current, valid, and unrestricted license to

practice medicine in the state, province, or region in which he or she practices. The physician acting as an expert witness should be familiar with the standard of care provided at the time of the alleged occurrence and should be actively engaged in practice of the specialty or the subject matter of the case during the time the testimony or opinion is provided. The specialty of the physician acting as an expert witness should be appropriate to the subject matter in the case. The physician acting as an expert witness is ethically and legally obligated to tell the truth. Compensation of the physician acting as an expert witness should be reasonable and commensurate with the time and effort given to preparing for depositions and court appearances. It is unethical for a physician acting as an expert witness to link compensation to the outcome of the case.

The American College of Surgeons has a more complete Statement on the Physician Acting as an Expert Witness.[5]

F. Impaired Physicians
It is every surgeon's responsibility to safeguard patients from harm as a result of the action or decisions of a colleague impaired by illness, aging, or substance abuse. In addition, there is a collegial and a medical responsibility to assist the impaired colleague in obtaining care, even if the individual must be reported to the appropriate authority to begin the steps toward adequate care.

G. Incompetent Surgeons
When incompetent patient management is recognized, the surgeon's responsibility is to assist the regular institutional peer review mechanism in remedying the situation. Physical, moral, or mental impairment that renders a colleague incompetent to care for patients, or that is associated with fraud or other malfeasance, should be disclosed to protect patients and society. On the other hand, it is indefensible to disparage the actions, knowledge, or skills of another physician for malicious reasons.

H. Maintenance of Fellowship
Maintenance of Fellowship is jeopardized by infractions of College principles as specified in the Bylaws of the American College of Surgeons. Fellows are expected to report knowledge of violations of these principles or of the Bylaws. When a Fellow is convinced that another Fellow is violating the Fellowship Pledge, the Bylaws of the College, or its principles, a confidential written communication should be sent to the Executive Director of the College. The information so submitted will then be further investigated and processed according to the provisions of the Bylaws.

Back to top

References

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Back to top

Appendix
Statement on Interprofessional Relations with Doctors of Chiropractic +

The American College of Surgeons declares that, except as provided by law, there are no ethical or collective impediments to full professional association and cooperation between doctors of chiropractic and medical physicians. Individual choice by a medical physician voluntarily to associate professionally or otherwise cooperate with a doctor of chiropractic should be governed only by legal restrictions, if any, and by the individual

medical physician's personal judgment as to what is in the best interest of a patient or patients. Professional association and cooperation, as referred to above, includes, but is not limited to, referrals, consultations, group practice in partnerships, health maintenance organizations, preferred provider organizations, and other alternative health care delivery systems; the provision of treatment privileges and diagnostic services in or through hospital facilities; working with and cooperating with doctors of chiropractic in hospital settings where the hospital's governing board, acting in accordance with the applicable law and that hospital's standards, elects to provide privileges or services to doctors of chiropractic; association and cooperation in hospital training programs for students in chiropractic colleges under suitable guidelines arrived at by the hospital and chiropractic college authorities; participation in student exchange programs between chiropractic and medical colleges; cooperation in research programs and the publication of research material in appropriate journals in accordance with established editorial policy of said journals; participating in health care seminars, health fairs, or continuing education programs; and any association or cooperation designed to foster better health care for patients of medical physicians, doctors of chiropractic, or both.

+Adopted pursuant to settlement agreement in Wilk et al v. AMA et al, September 1987.

Back to top

Revised September 18, 2008

Statements

Code *of* Professional Ethics

of the American College of Obstetricians and Gynecologists

Obstetrician-gynecologists, as members of the medical profession, have ethical responsibilities not only to patients, but also to society, to other health professionals and to themselves. The following ethical foundations for professional activities in the field of obstetrics and gynecology are the supporting structures for the Code of Conduct. The Code implements many of these foundations in the form of rules of ethical conduct. Certain documents of the American College of Obstetricians and Gynecologists also provide additional ethical rules, including documents addressing the following issues: seeking and giving consultation, informed consent, sexual misconduct, patient testing, human immunodeficiency virus, relationships with industry, commercial enterprises in medical practice, and expert testimony. Noncompliance with the Code, including the above-referenced documents, may affect an individual's initial or continuing Fellowship in the American College of Obstetricians and Gynecologists. These documents may be revised or replaced periodically, and Fellows should be knowledgeable about current information.

Ethical Foundations

I. The patient–physician relationship: The welfare of the patient *(beneficence)* is central to all considerations in the patient–physician relationship. Included in this relationship is the obligation of physicians to respect the rights of patients, colleagues, and other health professionals. The respect for the right of individual patients to make their own choices about their health care *(autonomy)* is fundamental. The principle of justice requires strict avoidance of discrimination on the basis of race, color, religion, national origin, or any other basis that would constitute illegal discrimination *(justice)*.

II. Physician conduct and practice: The obstetrician–gynecologist must deal honestly with patients and colleagues *(veracity)*. This includes not misrepresenting himself or herself through any form of communication in an untruthful, misleading, or deceptive manner. Furthermore, maintenance of medical competence through study, application, and enhancement of medical knowledge and skills is an obligation of practicing physicians. Any behavior that diminishes a physician's capability to practice, such as substance abuse, must be immediately addressed and rehabilitative services instituted. The physician should modify his or her practice until the diminished capacity has been restored to an acceptable standard to avoid harm to patients *(nonmaleficence)*. All physicians are obligated to respond to evidence of questionable conduct or unethical behavior by other physicians through appropriate procedures established by the relevant organization.

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III. Avoiding conflicts of interest: Potential conflicts of interest are inherent in the practice of medicine. Physicians are expected to recognize such situations and deal with them through public disclosure. Conflicts of interest should be resolved in accordance with the best interest of the patient, respecting a woman's autonomy to make health care decisions. The physician should be an advocate for the patient through public disclosure of conflicts of interest raised by health payer policies or hospital policies.

IV. Professional relations: The obstetrician–gynecologist should respect and cooperate with other physicians, nurses, and health care professionals.

V. Societal responsibilities: The obstetrician–gynecologist has a continuing responsibility to society as a whole and should support and participate in activities that enhance the community. As a member of society, the obstetrician–gynecologist should respect the laws of that society. As professionals and members of medical societies, physicians are required to uphold the dignity and honor of the profession.

Code of Conduct

I. Patient–Physician Relationship

1. The patient–physician relationship is the central focus of all ethical concerns, and the welfare of the patient must form the basis of all medical judgments.
2. The obstetrician–gynecologist should serve as the patient's advocate and exercise all reasonable means to ensure that the most appropriate care is provided to the patient.
3. The patient–physician relationship has an ethical basis and is built on confidentiality, trust, and honesty. If no patient–physician relationship exists, a physician may refuse to provide care, except in emergencies. Once the patient–physician relationship exists, the obstetrician–gynecologist must adhere to all applicable legal or contractual constraints in dissolving the patient–physician relationship.
4. Sexual misconduct on the part of the obstetrician–gynecologist is an abuse of professional power and a violation of patient trust. Sexual contact or a romantic relationship between a physician and a current patient is always unethical.
5. The obstetrician–gynecologist has an obligation to obtain the informed consent of each patient. In obtaining informed consent for any course of medical or surgical treatment, the obstetrician–gynecologist must present to the patient, or to the person legally responsible for the patient, pertinent medical facts and recommendations consistent with good medical practice. Such information should be presented in reasonably understandable terms and include alternative modes of treatment and the objectives, risks, benefits, possible complications, and anticipated results of such treatment.
6. It is unethical to prescribe, provide, or seek compensation for therapies that are of no benefit to the patient.
7. The obstetrician–gynecologist must respect the rights and privacy of patients, colleagues, and others and safeguard patient information and confidences within the limits of the law. If during the process of providing information for consent it is known that results of a particular test or other information must be given to governmental authorities or other third parties, that must be explained to the patient.
8. The obstetrician–gynecologist must not discriminate against patients based on race, color, national origin, religion, or any other basis that would constitute illegal discrimination.

II. Physician Conduct and Practice

1. The obstetrician–gynecologist should recognize the boundaries of his or her particular competencies and expertise and must provide only those services and use only those techniques for which he or she is qualified by education, training, and experience.

2. The obstetrician–gynecologist should participate in continuing medical education activities to maintain current scientific and professional knowledge relevant to the medical services he or she renders. The obstetrician–gynecologist should provide medical care involving new therapies or techniques only after undertaking appropriate training and study.
3. In emerging areas of medical treatment where recognized medical guidelines do not exist, the obstetrician–gynecologist should exercise careful judgment and take appropriate precautions to protect patient welfare.
4. The obstetrician–gynecologist must not publicize or represent himself or herself in any untruthful, misleading, or deceptive manner to patients, colleagues, other health care professionals, or the public.
5. The obstetrician–gynecologist who has reason to believe that he or she is infected with the human immunodeficiency virus (HIV) or other serious infectious agents that might be communicated to patients should voluntarily be tested for the protection of his or her patients. In making decisions about patient-care activities, a physician infected with such an agent should adhere to the fundamental professional obligation to avoid harm to patients.
6. The obstetrician–gynecologist should not practice medicine while impaired by alcohol, drugs, or physical or mental disability. The obstetrician–gynecologist who experiences substance abuse problems or who is physically or emotionally impaired should seek appropriate assistance to address these problems and must limit his or her practice until the impairment no longer affects the quality of patient care.

III. Conflicts of Interest

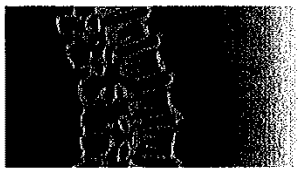
1. Potential conflicts of interest are inherent in the practice of medicine. Conflicts of interest should be resolved in accordance with the best interest of the patient, respecting a woman's autonomy to make health care decisions. If there is an actual or potential conflict of interest that could be reasonably construed to affect significantly the patient's care, the physician must disclose the conflict to the patient. The physician should seek consultation with colleagues or an institutional ethics committee to determine whether there is an actual or potential conflict of interest and how to address it.
2. Commercial promotions of medical products and services may generate bias unrelated to product merit, creating or appearing to create inappropriate undue influence. The obstetrician–gynecologist should be aware of this potential conflict of interest and offer medical advice that is as accurate, balanced, complete, and devoid of bias as possible.
3. The obstetrician–gynecologist should prescribe drugs, devices, and other treatments solely on the basis of medical considerations and patient needs, regardless of any direct or indirect interests in or benefit from a pharmaceutical firm or other supplier.
4. When the obstetrician–gynecologist receives anything of substantial value, including royalties, from companies in the health care industry, such as a manufacturer of pharmaceuticals and medical devices, this fact should be disclosed to patients and colleagues when material.
5. Financial and administrative constraints may create disincentives to treatment otherwise recommended by the obstetrician–gynecologist. Any pertinent constraints should be disclosed to the patient.

IV. Professional Relations

1. The obstetrician–gynecologist's relationships with other physicians, nurses, and health care professionals should reflect fairness, honesty, and integrity, sharing a mutual respect and concern for the patient.
2. The obstetrician–gynecologist should consult, refer, or cooperate with other physicians, health care professionals, and institutions to the extent necessary to serve the best interests of their patients.

V. Societal Responsibilities

1. The obstetrician–gynecologist should support and participate in those health care programs, practices, and activities that contribute positively, in a meaningful and cost-effective way, to the welfare of individual patients, the health care system, or the public good.
2. The obstetrician–gynecologist should respect all laws, uphold the dignity and honor of the profession, and accept the profession's self-imposed discipline. The professional competence and conduct of obstetrician–gynecologists are best examined by professional associations, hospital peer-review committees, and state medical and licensing boards. These groups deserve the full participation and cooperation of the obstetrician–gynecologist.
3. The obstetrician–gynecologist should strive to address through the appropriate procedures the status of those physicians who demonstrate questionable competence, impairment, or unethical or illegal behavior. In addition, the obstetrician–gynecologist should cooperate with appropriate authorities to prevent the continuation of such behavior.
4. The obstetrician–gynecologist must not knowingly offer testimony that is false. The obstetrician–gynecologist must testify only on matters about which he or she has knowledge and experience. The obstetrician–gynecologist must not knowingly misrepresent his or her credentials.
5. The obstetrician–gynecologist testifying as an expert witness must have knowledge and experience about the range of the standard of care and the available scientific evidence for the condition in question during the relevant time and must respond accurately to questions about the range of the standard of care and the available scientific evidence.
6. Before offering testimony, the obstetrician–gynecologist must thoroughly review the medical facts of the case and all available relevant information.
7. The obstetrician–gynecologist serving as an expert witness must accept neither disproportionate compensation nor compensation that is contingent upon the outcome of the litigation.



NASS
NORTH AMERICAN SPINE SOCIETY

Code of Ethics

A. General Statement of Purpose

NASS has established a Code of Ethics for its members intended to serve as guidelines in medical, social, and professional relationships which occur in spine care practice. This code is a statement of ideals, commitments, and responsibilities of NASS members to patients, other health professionals, society and themselves, and thus may be considered as one of the measures used to evaluate a member's maintenance of good professional standing, and to evaluate qualifications for membership by applicants.

B. Ethics as They Relate to the Spine Care Provider

1. A NASS member shall serve as the patient's advocate and exercise all reasonable means to ensure that the most appropriate care is provided to the patient.
2. A NASS member shall not participate in any activity which is not in the best interest of the patient.
3. A NASS member shall recognize the boundaries of his or her particular competencies and expertise, and provide only those services and use only those techniques for which he or she is qualified by education, training, or experience.
4. A NASS member shall not publicize or represent himself or herself in any untruthful, misleading, or deceptive manner to patients, colleagues, other health care professionals, or the public.
5. A NASS member shall be actively involved in continuing medical education in order to keep current on new medical technology and information in spine care.
6. A NASS member shall not become dependent on alcohol, drugs, or involved in any other abusive practice. Should such occur, he or she should submit voluntarily to treatment and should accept recommendations of the local committee for evaluating impaired physicians or similar peer review committee.

C. Ethics of Relationships Between Health Care Providers

1. In those instances in which a spine care provider is identified as being incompetent, his or her medical colleagues shall bring this circumstance to that person's attention and refer him or her to the appropriate professional committee of his or her hospital or state society, if necessary. A spine care provider is determined to be incompetent, for purposes of this document, when he or she is found to be without adequate ability, knowledge or fitness, being assessed as incapable or unskillful and as failing to meet certain qualifications to practice in accordance with normally accepted national standards.
2. A NASS member shall not practice medicine while impaired by alcohol, drugs, or physical or mental disability. The spine care provider who experiences substance abuse problems or who is physically or emotionally impaired should seek appropriate assistance to address these problems and limit his or her practice until the impairment no longer affects the quality of patient care.
3. A NASS member shall respect the rights of colleagues and of other health professionals.
4. A NASS member shall only receive compensation for services he or she actually delivers or directly supervises. The division of income among members of an organized group, based on the value of the services performed by each member, as determined by group members, is appropriate.
5. A NASS member transferring care of a patient to another health care provider, either by his or her own recommendation or at the request of the patient or patient's family, shall cooperate with the health care provider who receives the transferred patient.
6. A NASS member shall cooperate fully and be actively involved in the educational process of other physicians and health care providers as circumstances permit.
7. A NASS member shall be responsible for helping his or her medical colleagues maintain a high level of performance and integrity in the practice of medicine, and shall refrain from repeating false charges about another health care professional.
8. A NASS member must fully cooperate with the Professional Conduct and Ethics Committee in responding to any charges brought or any reasonable requests by the Committee.

D. Ethics Related to the Patient and Patient's Family

1. A NASS member and the patient, and patient's family, when appropriate, shall be involved in dialogue so the joint medical decision-making process will be in keeping with the patient's philosophy and desires.
2. Privacy and confidentiality of information shared by the spine care provider and his or her patient, and/or

patient's family, including but not limited to, Protected Health Information under the Health Insurance Portability and Accountability Act ("HIPAA"), shall be respected except in those circumstances where societal concerns expressed in the law require disclosure.

3. Sexual misconduct on the part of a NASS member is an abuse of professional power and a violation of patient trust. Sexual contact or a romantic relationship between a spine care provider and a current patient is unethical.

4. A NASS member shall be the advocate of the terminally ill patient to allow dignity in dying while providing relief of pain and suffering and avoiding unnecessary financial burdens for both patient and family. The lawful wishes of the competent patient shall be respected.

5. A NASS member involved in human research and experimentation shall respect the rights of the participants and shall fully inform the participants before proceeding with any treatment or research.

E. Ethics Related to Industry

1. A NASS member who is not acting as faculty should not accept any subsidy from industry, directly or indirectly, to pay for the costs of travel, lodging or other personal expenses in attending scientific or educational conferences or meetings. However, faculty at such conferences or meetings can accept reasonable honoraria and reimbursement of reasonable expenses if customary.

2. A NASS member should not individually accept any gifts of substantial value or cash from industry. Members may accept modest, occasional gifts from industry if they benefit patients or serve a genuine educational function and have a fair market value less than $100 (textbooks and anatomical models excepted).

3. A NASS member should not enter into any academic or consulting relationship with industry that might influence his or her care of patients. If a conflict or apparent conflict develops between the physician's financial interest and the physician's responsibilities to the patient, the conflict must be resolved to the patient's benefit.

4. A NASS member must disclose to colleagues and patients, in a professional context, any financial relationships that he or she has with industry.

5. A NASS member who fails to disclose financial or other significant relationship with industry in accordance with NASS' current Disclosure Policy is in violation of this Code of Ethics.

F. Ethics as Related to the Legal Profession

1. A NASS member shall respect the confidentiality of the doctor-patient relationship and shall not release Protected Health Information, as that term is defined in HIPAA, unless the patient has knowledgeably consented except as required by law.

2. A NASS member, as an expert witness, shall diligently and thoroughly prepare himself or herself with relevant facts so that he or she can, to the best of his or her ability, provide the court with accurate and documentable opinions on the matters at hand.

3. A NASS member shall cooperate with members of the legal profession in order that justice with mercy and compassion shall prevail.

G. Responsibilities of the NASS Member to Government

1. A NASS member shall always abide by the law of the land, but support changes in those laws which are contrary to the best interests of the patient and society.

2. A NASS member shall cooperate and deal honestly with governmental agencies involving those areas of health care of which he or she is a participant, but will preserve patient confidentiality.

H. Ethics Related to the Physician and Insurance, Compensation and Reimbursement Agencies

1. A NASS member shall be honest in financial dealings with the patient, insurance and health care financing agencies, and shall provide accurate, complete and timely information to those agencies.

2. A NASS member shall respond appropriately to requests for medical reports from private and governmental agencies involved in reimbursement and compensation for medically related services with the consent of the patient or the patient's agent, or as otherwise provided by the law.

3. Financial and administrative constraints imposed by managed care may create disincentives to treatment otherwise recommended by the spine care provider as in the patient's best interest. Any pertinent constraints should be disclosed to the patient.

I. Ethics Related to Community and World Affairs

NASS members, in addition to providing patient care, have a social obligation to be involved in community and world activities, especially those matters affecting health.

J. Ethics Related to Research

1. All NASS members who contribute to research will maintain the highest standards of academic integrity. Fraud, falsification of data and other forms of academic dishonesty must not be conducted or condoned. The publication of data from other sources must be adequately acknowledged.

2. Original research data should be held in trust for the scientific and academic community, and should be retained for a reasonable period. Subsequent to publication, all such data should be accessible on a reasonable basis.

3. It is recognized that research is often a collaborative effort. All who have made a significant intellectual contribution to the research activity should be included as authors of its publication or appropriately acknowledged. The authors should be able to vouch for the quality and integrity of the contributions to the work.

4. In proposing and carrying out research, NASS members must be open about the purposes, potential impacts, and sources of support for research projects with funders, colleagues, persons studied or providing information, and with relevant parties affected by the research.

5. All identified authors must disclose in publications or presentations potential conflicts of interest and sources of funding for that publication or presentation and any resources of the funding entity utilized in the research, analysis, presentation or publication.

6. NASS members engaged in research should undertake logistical tasks and accept responsibilities only if qualified by training or experience, or after full disclosure to all relevant parties of pertinent limitations in training or experience.

7. NASS members engaged in research must do everything in their power to ensure that their research does not harm the safety, dignity, or privacy of the people with whom they work, conduct research, or perform other professional activities.

8. NASS members engaged in research should follow the rules and practice of their local IRB with respect to obtaining an advance informed consent of persons being studied, and with respect to providing information, owning or controlling access to material being studied, or otherwise having interests which might be impacted by the research.

9. NASS members engaged in research must expect to encounter ethical dilemmas at every stage of their work, and must make good faith efforts to identify potential ethical claims and conflicts in advance when preparing proposals and as projects proceed.

10. NASS members engaged in research shall ensure that all reports and projects are complete, are clearly written in language understandable to others not involved in the project; fully distinguish among assumptions, speculations, findings, and judgments; employ appropriate statistics and graphics; adequately describe the limitations of the project, of the analytical method, and of the findings; and allow scholarly norms in the attribution of ideas, methods and expressions and in the sources of data.

11. NASS members engaged in research shall permit no release of information about individual persons that has been guaranteed as confidential, or that is violation of the Health Insurance Portability and Accountability Act (HIPAA).

12. All analysis of data, manuscript preparation and presentation will be free of commercial input, influence or bias. It will be the work solely of authors and colleagues. Authors will be forthright about disclosing all relevant data. All relevant findings regarding benefits, risks, complications and related issues will be disclosed in all prepared materials

13. A NASS member will never submit a paper for publication or presentation under the name of any individual who has not contributed substantially to its preparation and who had not read and approved the paper.

Revised October 2008

NASS 26th Annual Meeting: November 1-5, 2011 | Chicago, Illinois
NASS Headquarters: 7075 Veterans Blvd., Burr Ridge, IL 60527 | (630) 230-3600 (phone) | (630) 230-3700 (fax)

AMERICAN ACADEMY OF NEUROLOGY
Professional Association

CODE OF PROFESSIONAL CONDUCT

American Academy of Neurology Professional Association

PREFACE

The American Academy of Neurology developed the Code of Professional Conduct to formalize the standards of professional behavior for neurologist members of the Academy. The primary goal of the Code is to promote the highest quality of neurologic care. The Code is framed to outline the set of professional standards that neurologists must observe in their clinical and scientific activities.

The Code embodies traditional medical ethical standards dating from the time of Hippocrates as well as more contemporary standards. It includes general principles of medical ethics and provides their application to the specific demands of neurologic practice. The Code is delineated to be generally consistent with the American Medical Association Code of Medical Ethics and the American Medical Association Current Opinions of the Council on Ethical and Judicial Affairs.

The Code is written in relatively broad language. It is designed to be a dynamic instrument that can grow and change in response to future developments in the practice and science of neurology. While ethical principles do not change with time, developments in science, technology, and clinical practice may lead to a change in application of these ethical principles.

The Code outlines the standards of professional conduct for Association members. Violations of these standards may serve as the basis for disciplinary action as provided in the Bylaws of the Association.

If any provision of this code conflicts with state or federal law, the state or federal laws will govern.

1.0 The Neurologist-Patient Relationship

1.1 The Practice of Neurology

The profession of neurology exists primarily to study, diagnose and treat disorders of the nervous system. The neurologist-patient relationship forms the foundation for neurologic care.

1.2 Fiduciary and Contractual Basis
The neurologists has fiduciary and contractual duties to patients. As a fiduciary, the neurologist has an ethical duty to consider the interests of the patient first. As a party to an implied contract, the neurologist has a duty to practice competently and to respect patients' autonomy, confidentiality, and welfare.

1.3 Beginning and Ending the Relationship
The neurologist is free to decide whether or not to undertake medical care of a particular person. The neurologist must not decline a patient on the basis of race, religion, nationality, sexual orientation, or gender. Once the relationship has begun, the neurologist must provide care until care is complete, the patient ends the relationship, or the neurologist returns the patient to the care of the referring physician. If the neurologist justifiably desires to end the relationship, and if continued neurologic care is appropriate, he/she should assist in arranging care by another neurologist.

1.4 Informed Consent
The neurologist must obtain the patient's consent for tests or treatment. The neurologist should disclose information that the average person would need to know to make an appropriate medical decision. This information should include benefits, risks, costs, and alternatives to the proposed treatment. If the patient lacks medical decision-making capacity, the neurologist must obtain informed consent from an appropriate proxy.

1.5 Communication
The neurologist has a duty to communicate effectively with the patient. The neurologist should convey relevant information in terms the patient can understand and allow adequate opportunity for the patient to raise questions and discuss matters related to treatment.

1.6 Emergency Care
In an emergency situation, the neurologist should render services to the patient to the best of his/her ability. While obtaining informed consent is desirable before beginning treatment, the neurologist should not delay urgently needed treatment because of concerns about informed consent.

1.7 Medical Risk to the Physician
A neurologist should not refuse to care for a patient solely because of the real or perceived medical risk to the neurologist. The neurologist should take appropriate precautions to minimize his/her medical risk.

1.8 Medical Decision-Making
The patient has the ultimate right to accept or reject the neurologist's recommendation about medical treatment. The neurologist should respect decisions made by patients with decision-making capacity and by the lawful proxy of patients who lack decision-making capacity. If the neurologist cannot honor the patient's or proxy's decision, the neurologist should seek to arrange transfer of the patient's care to another physician.

2.0 General Principles of Neurologic Care

2.1 Professional Competence
The neurologist must practice only within the scope of his/her training, experience, and competence. The neurologist should provide care that represents the prevailing standards of neurologic practice. To this end, neurologists should participate in a regular program of continuing education.

2.2 Consultation
The neurologist should obtain consultations when indicated. The neurologist should refer patients only to competent practitioners and should assure that adequate information is conveyed to the consultant. Any differences of opinion between the neurologist and consultant or between the neurologist and their referring physician should be resolved in the best interest of the patient.

2.3 Confidentiality
The neurologist must maintain patient privacy and confidentiality. Details of the patient's life or illness must not be publicized.

2.4 Patient Records
The neurologist should prepare records that include relevant history, neurologic findings, assessment, and plan of evaluation and treatment. Patients are entitled to information within their medical records.

2.5 Professional Fees
The neurologist is entitled to reasonable compensation for medical services to or on behalf of patients. The neurologist should receive compensation only for services actually rendered or supervised. The neurologist must not receive a fee for making a referral ("fee-splitting") or receive a commission from anyone for an item or service he/she has ordered for a patient ("kickback"). The agreed upon division of practice income among members of an organized medical group is acceptable.

2.6 Appropriate Services
The neurologist should order and perform only those services that are medically indicated.

3.0 Special Categories of Neurologic Care

3.1 The Dying Patient
The neurologist should strive to relieve the suffering of dying patients. The neurologist should respect the expressed wishes of dying patients about life-prolonging therapy, including lawful advance directives.

3.2 The Profoundly Paralyzed Patient
The neurologist should attempt to enhance the independence and communication of

profoundly paralyzed patients. Patients with advanced degrees of paralysis who retain decision-making capacity should be encouraged and assisted to participate in decisions about their medical care including decisions about withdrawing life-support.

3.3 The Demented Patient
The neurologist should define a course of treatment that respects the wishes expressed by the patient before dementia has impaired decision-making capacity. If such wishes are not ascertainable, the neurologist should be guided about appropriate treatment by the patient's lawful proxy.

3.4 The Patient in a Persistent Vegetative State
The neurologist managing the patient in a persistent vegetative state should follow the provisions of lawful advance directives for medical care and, in their absence, the health care decisions of a lawfully authorized proxy.

3.5 The Brain-Dead Patient
The neurologist should determine brain death using accepted tests and techniques. The neurologist should be mindful that some patients may have religious or other strongly held objections to the concept of brain death. Compassionate management in these situations is desirable.

4.0 Personal Conduct

4.1 Respect for the Patient
The neurologist must treat patients with respect, honesty, and conscientiousness. The neurologist must not abuse or exploit the patient psychologically, sexually, physically, or financially.

4.2 Respect for Agencies and the Law
The neurologist should observe applicable laws. Because agencies may impact on patients' welfare, the neurologist should cooperate and comply with reasonable requests from insurance, compensation, reimbursement, and government agencies within the constraints of patient privacy and confidentiality.

4.3 Maintenance of the Neurologist's Personal Health
The neurologist should strive to maintain physical and emotional health. The neurologist should refrain from practices that may impair capacities to provide adequate patient care.

5.0 Conflicts Of Interest

5.1 The Patient's Interest is Paramount
Whenever a conflict of interest arises, the neurologist must attempt to resolve it in the best interest of the patient. If the conflict cannot be eliminated, the neurologist should withdraw from the care of the patient.

5.2 Avoidance and Disclosure of Potential Conflicts
The neurologist must avoid practices and financial arrangements that would, solely because of personal gain, influence decisions in the care of patients. Financial interests of the neurologist that might conflict with appropriate medical care should be disclosed to the patient.

5.3 Dispensing Medication
The neurologist may dispense medication, assistive devices, and related patient-care items as long as this practice provides a convenience or an accommodation to the patient without taking financial advantage of the patient. The patient should be given a choice to accept the dispensed medication or device or to have a prescription filled outside the neurologist's office.

5.4 Health-Care Institutional Conflicts
The neurologist generally should support his patient's medical interests when they are compromised by policies of a health-care institution or agency. Physicians employed by healthcare institutions should represent the patient's medical interests and serve as their medical advocate to the institutional administration.

5.5 Conflicting Ethical Duties
While a neurologist ordinarily must respect a patient's confidentiality, there are circumstances in which a breach of confidentiality may be justified. When the neurologist is aware that an identifiable third party is endangered by a patient, the neurologist must take reasonable steps to warn the third party. When the neurologist is aware that members of the general public are endangered by a patient, the neurologist must take reasonable steps to advise responsible public officials or agencies of that danger.

6.0 Relationships With Other Professionals

6.1 Cooperation with Health Care Professionals
The neurologist should cooperate and communicate with other health care professionals, including other physicians, nurses, and therapists, in order to provide the best care possible to patients.

6.2 Peer Review
The neurologist should participate in peer review activities in order to promote the best care possible of patients.

6.3 Criticism of a Colleague
The neurologist should not unjustifiably criticize a colleague's judgment, training, knowledge, or skills. Neurologists should not knowingly ignore a colleague's incompetence or professional misconduct, thus jeopardizing the safety of the colleague's present and future patients.

6.4 Legal Expert Testimony
The neurologist called upon to provide expert medical testimony should testify only about those subjects for which the neurologist is qualified as an expert by training and experience. Before giving testimony the neurologist should carefully review the relevant records and facts of the case and the prevailing standards of practice. In providing testimony, the neurologist should provide scientifically correct and clinically accurate opinions. Compensation for testimony should be reasonable and commensurate with time and effort spent, and must not be contingent upon outcome.

6.5 Health Care Organizations
The neurologist may enter into contractual agreements with managed health care organizations, prepaid practice plans, or hospitals. The neurologist should retain control of medical decisions without undue interference. The patient's welfare must remain paramount.

6.6 The Impaired Physician
The neurologist should strive to protect the public from an impaired physician and to assist the identification and rehabilitation of an impaired colleague.

7.0 Relationships With The Public And Community

7.1 Public Representation
The neurologist should not represent himself/herself to the public in an untruthful, misleading, or deceptive manner. A patient's medical condition must not be discussed publicly without the patient's consent.

7.2 Duties to Community and Society
Neurologists should work toward improving the health of all members of society. This may include participation in educational programs, research, public health activities, and the provision of care to patients who are unable to pay for medical services. The neurologist should be aware of the limitation of society's health care resources and should not squander those finite resources by ordering unnecessary tests and ineffective treatments.

7.3 Disclosure of Potential Conflicts
Neurologists who make written or oral public statements concerning a product of a company from which they receive compensation or support, or in which they hold a significant equity position, have a duty to disclose their financial relationship with the company in that public statement.

7.4 Prohibition Against Participating in Legally Authorized Executions
A neurologist should not be a participant in a legally authorized execution.

8.0 Clinical Research

8.1 Institutional Review
The neurologist who participates in clinical research must ascertain that the research has been approved by an Institutional Review Board (IRB) or other comparable body and must observe the requirements of the approved protocol.

8.2 Disclosure of Potential Conflicts
The neurologist who is paid for treating patients in a clinical research project should inform the patient of any compensation the neurologist receives for the patient's participation. The compensation for patient treatment should be reasonable in amount. The neurologist should not bill the patient or the insurer for services already compensated by the study sponsor.

8.3 Individual Patient Experimentation
The neurologist who begins a patient on an experimental therapy that has not been approved as a valid clinical study by an IRB should obtain informed consent from the patient.

8.4. Reporting Research Results
The neurologist should publish research results truthfully, completely, and without distortion. In reporting research results to the news media, the neurologist should make statements that are clear, understandable, and supportable by the facts. Neurologists should not publicize results of research until after the data have been subjected to appropriate peer review.

Portions of this Code were modified from the following codes of professional ethics and professional conduct: 1.American Academy of Orthopaedic Surgeons: Guide to the Ethical Practice of Orthopaedic Surgery, 1990. 2. American Association of Neurological Surgeons: American Association of Neurological Surgeons Code of Ethics. 3.American Academy of Ophthalmology: Code of Ethics of the American Academy of Ophthalmology, Inc., 1991. 4. American College of Physicians: American College of Physicians Ethics Manual. Part I: history; the patient; other physicians; Annals of Internal Medicine; 1989; 111:245-252. 5. American College of Physicians: American College of Physicians Ethics Manual. Part II: the physician and society; research; life-sustaining treatment; other issues. Annals of Internal Medicine; 1989; 111:327-335. 6. American College of Surgeons: American College of Surgeons Statements on Principles, 1989. 7. American Psychiatric Association: The Principles of Medical Ethics with Annotations Especially Applicable to Psychiatry, 1989. 8. American Medical Association: Code of Medical Ethics and Current Opinions of the American Medical Association Council on Ethical and Judicial Affairs, 1992. Approved Practice Committee and AAN Board of Directors February 1993. Section 7.4, was added in 2008 when the AANPA Board of Directors also endorsed E-2.06 (Capital Punishment) in the AMA Code of Ethics. Amendments approved by the Ethics, Law and Humanities Committee on January 12, 2008, the AANPA Executive Committee on February 21, 2008, and the AANPA Board of Directors on March 7, 2008 (AANPA Policy 2008-06). MGS:20080225

The New York Times

April 1, 2009

A WORLD OF HURT

Exams of Injured Workers Fuel Mutual Mistrust

By N. R. KLEINFIELD

Dr. Hershel Samuels, an orthopedic surgeon, put his hand on the worker's back. "Mild spasm bilaterally," he said softly. He pressed his fingers gingerly against the side of the man's neck. "The left cervical is tender," he said, "even to light palpation."

The worker, a driver for a plumbing company, told the doctor he had fallen, banging up his back, shoulder and ribs. He was seeking expanded workers' compensation benefits because he no longer felt he could do his job.

Dr. Samuels, an independent medical examiner in the state workers' compensation system, seemed to agree. As he moved about a scuffed Brooklyn office last April, he called out test results indicative of an injured man. His words were captured on videotape.

Yet the report Dr. Samuels later submitted to the New York State Workers' Compensation Board cleared the driver for work and told a far different story: no back spasms, no tender neck. In fact, no recent injury at all.

"If you did a truly pure report," he said later in an interview, "you'd be out on your ears and the insurers wouldn't pay for it. You have to give them what they want, or you're in Florida. That's the game, baby."

Independent medical exams are among the most disputed components of New York's troubled workers' compensation system. Under that system, workers with bona fide injuries are entitled to medical care and replacement wages, usually paid for by their employer's insurer.

The independent exams are designed to flush out workers who exaggerate injuries or get unnecessary care, and there is no question that some of that goes on. As a check on what a worker's doctor determines, insurers are allowed to order an ostensibly neutral exam by a doctor they select and pay for. They do so regularly, with more than 100,000 exams conducted each year.

But a New York Times review of case files and medical records and interviews with participants indicate that the exam reports are routinely tilted to benefit insurers by minimizing or dismissing injuries.

"You go in and sit there for a few minutes — and out comes a six-page detailed exam that he never did," said Dr. Stephen M. Levin, co-director of the occupational and environmental medicine unit at Mount Sinai Medical Center, who has been picked as the interim medical director at the compensation board. "There are some noble things you can do in medicine without treating. This ain't one of them."

New York uses independent medical examiners far more extensively than many states do, and critics say the practice adds to the mistrust in the system. The examiners' opinions can empower an insurer to slash benefits, withhold medical treatment or stall a case. Workers say that psychologically, there is something particularly damaging about being dishonestly evaluated by a medical professional.

"I was in so much pain and felt so hopeless for so long," said Carol Houlder, a substance abuse counselor who waited a year for surgery on her injured ankle to be approved. "Doctors see you're in pain and say you're not. How do they call themselves doctors?"

Many independent examiners are older, semiretired physicians who no longer treat patients, and claimants and lawyers have asserted that the memories and judgments of some of the doctors have at times been impaired by their age and frailties. The examiners do not need special training, only to have a state license and to be authorized in a specialty.

"Basically if you haven't murdered anyone and you have a medical license, you get certified," said Dr. Alan Zimmerman, 75, a Queens orthopedic surgeon who does the exams. "It's clearly a nice way to semiretire."

Some examiners see dozens of injured workers a day. Often the appointments are booked by brokers who help insurance companies find doctors. Some brokers are not registered with the state, as required, but there has been little enforcement of the rules.

Insurers, examiners and brokers, however, defend the exams as necessary and largely untarnished by bias. Dr. Brian L. Grant, chairman of Medical Consultants Network, a company based in Seattle that arranges independent exams across the country, said, "We never get pressure from an insurer."

Many workers contest independent medical examiner opinions and often prevail. Judges can, and do, dismiss the exam findings. In fact, some lawyers and judges laugh when certain examiners' names come up at hearings.

Dr. Kenneth E. Seslowe, an orthopedic surgeon who mainly does independent medical exams, is mocked at hearing offices by attorneys as Dr. Says-No, because they feel he consistently finds no disability. Asked about this, Dr. Seslowe said, "I really don't have time for this."

But even when the opinions are discounted, resolution can take months, years, even decades, and many workers, tired of the ordeal of five, six, seven exams, eventually give up.

Some examiners, of course, do furnish honest, well-reasoned opinions. And sorting out the yawning breach between what a worker's doctors and an independent medical examiner conclude is complicated by the fact that some injuries and their impact on a person's ability to work — especially soft-tissue injuries like those to the back and neck — are hard to document with indisputable tests.

Zachary S. Weiss, the chairman of the workers' compensation board, said that he found the disparities in medical opinions shocking and that use of independent examiners was "off the charts." But Mr. Weiss, who was appointed in late 2007, said he was unsure what would rectify the problems.

After nearly a dozen years without a medical director, the board has finally filled that job temporarily. It has

introduced new, more detailed forms, which many doctors find maddening. It is also working on fresh guidelines that it hopes will better calibrate an injured worker's care and work limits.

Dr. Robert E. Bonner, the medical director of the Hartford, an insurance company, said it was clear that the landscape had polarized. "Physicians regrettably have moved away from being neutral observers," he said. "They've moved toward one camp or the other."

Doctor vs. Doctor

When New York companies complain about the high cost of doing business in the state, they often cite fraudulent workers' compensation claims as a key factor.

Though experts say talk of worker fraud is frequently overstated, it is widely acknowledged that some doctors collaborate with workers or their lawyers to magnify injuries or provide treatment for years without making someone better. Law firms representing workers often have cozy relationships with doctors to whom they refer patients, and vice versa.

A few years ago, Dr. Rafeak Muhammad, a Queens ophthalmologist, was barred from taking workers' compensation patients after acknowledging that he had treated several long after it was necessary. He declared them unable to work when in fact they could.

David Donaldson, senior vice president at the domestic claims subsidiary of A.I.G., one of the state's largest workers' compensation insurers, said, "Our position on I.M.E.'s is we're looking for someone who is going to give us a coldly objective view of the injury."

Critics, however, contend that independent medical examiners who reliably dispute workers' doctors are hired more often by insurers. Some workers cynically refer to them as "insurers' medical examiners."

Shu-Ying Xu, 66, a home health aide, said she met with an independent examiner in October 2006 so he could review the back, neck and leg injuries she suffered when she tried to prevent a patient from falling.

She said the exam took two minutes and was so quick that the doctor, Wayne Kerness, an orthopedic surgeon, did not ask her anything.

As a result, she said, when the doctor filed his report he said she spoke English. She does not.

He said she took no medications. She said she took nine.

He said her disability was mild and she could resume work.

She said that she was in debilitating pain and that the Social Security Administration had already concluded that by its standards, she was totally disabled.

"She can't even hold a gallon of milk," said Peter Chang, her son. He had come along to the exam to translate. Since no questions were asked, he said he had nothing to do.

After checking his notes, Dr. Kerness said it was an error to have said that Ms. Xu spoke English. Otherwise,

he stood by the report. "What can I say?" he said. "People can say whatever they want."

He added: "I have my share of people I've found totally disabled and even recommended treatment that has been overlooked. I think I'm pretty heterogeneous."

A judge ultimately ruled that Ms. Xu's benefits should continue.

For decades, independent medical examiners were essentially unregulated. Reports were sometimes altered by brokers and exams often were done at airports, hotels or in the garages of doctors' homes. In 2000, a doctor examined five patients in a Long Island bar.

In 2001, the state introduced rules. Among them: doctors had to register with the board, work in a medical office and let workers record or videotape their exams. Claimants are permitted to bring along anyone they choose to witness or film the sessions.

While the law has helped, the process remains riddled with flaws. Lawyers and injured workers say many of the examiners still do brief, perfunctory, one-sided exams.

A small study conducted a few years ago at the Central New York Occupational Health Clinical Center in Syracuse found that the clinic's doctors and independent medical examiners virtually never agreed on whether a worker was disabled. When it can be proven that medical examiners have acted inappropriately, the compensation board revokes their certification — which has happened more often in recent years. But investigations are time consuming and only a dozen or so result in revocations each year.

William Gurin, the board's fraud inspector general, says his unit's limited resources are best focused on more fertile areas of fraud, such as employers who underreport their work force to save on insurance premiums.

Similarly, the board struggles to regulate businesses, from storefront exam factories to multistate networks, that help produce independent exams. Decades ago, insurers hired doctors directly. Now the job is increasingly done by third-party brokers called entities.

Entities are paid by insurers — around $500 or $600, say, for an orthopedic exam — and they in turn pay the doctor. Often, doctors submit dictated notes or checklists to clerical staff at the firms, who then draft the reports. Other times the notes go to transcription companies. The people preparing the reports may have no medical training.

Since 2001, the state has required entities to be registered. About 170 have signed up. But a fair amount of independent exam work is performed by companies that have never registered.

It was an unregistered company, Wine Medical Management, that arranged an independent medical exam of Santos Padilla, an injured worker, in 2006. The exam was to be done by Dr. Kerness, but it was canceled, and Mr. Padilla was seen by another doctor.

But somehow the compensation board received a report signed by Dr. Kerness recounting an exam that had never happened.

Dr. Kerness blamed the bogus submission on a clerical error by Wine. He said the company, using a

signature stamp, had affixed his name to a report he had not seen.

Wine went out of business last year. A former manager at Wine, Laura Urban, blamed the discrepancy on a transcription company that prepared the reports. Ms. Urban moved to Commander Management, another entity that was doing unregistered work until the board ordered it to cease.

The board is looking into the Padilla episode, and has pledged to crack down on unregistered I.M.E. entities. Only a handful have ever had their certifications revoked, usually not for creating shoddy reports but for failing to pay their doctors.

Robert Grey, a claimant lawyer, said the board should track the opinions of independent medical examiners and compare them to ultimate verdicts, and then exclude doctors who were constantly found not credible.

Currently, the best protection for a worker is to tape an exam. But few do. The board does virtually nothing to promote the practice, and some doctors do not like it. When a woman brought a camera to an appointment upstate, the doctor called the police to toss her out.

Ms. Houlder, 63, who hurt her ankle, videotaped her exam by Dr. M. Pierre Rafiy, a 77-year-old Long Island orthopedic surgeon.

In the videotape, Dr. Rafiy grasps Ms. Houlder's right ankle and says it is swollen. In the written report, he stated that there was no swelling and no disability and that she could return to work.

When subsequently deposed, he backtracked, saying it had been a secretary's mistake to say no disability. He did not correct anything else.

Asked about the exam in an interview, Dr. Rafiy said: "I have no way to know if she had real pain. You have to remember, a lot of people don't want to work. They lie a lot."

Examiners, or Advocates

Dr. Samuels, 79, with a radiant smile and a burst of snowy hair, stopped doing surgery years ago. Until recently he commonly filled his days performing insurance exams on workers, sometimes as many as 50 in an afternoon, he said in his small office in Borough Park, Brooklyn.

"You obviously can't spend a lot of time with that volume pushing up your back," he said. "You have to assume there are going to be errors. Look, there are a lot of holes in this thing."

At times, evidence shows, Dr. Samuels's official reports were quite different from what he appeared to find during an exam.

Consider his 2007 examination of Johanne Aumoithe, a pastry chef who said she had hurt her arm and neck. On a videotape that Ms. Aumoithe recorded on her cellphone, Dr. Samuels comments that she had limited range of motion. His written report concluded the opposite.

Asked about the discrepancy in an interview, Dr. Samuels chuckled and said he could not even recall the people he saw yesterday. The way he worked, he said, was to submit a checklist to a Queens company called

All Borough Medical, which transformed it into a narrative.

"I never write a sentence," he said. "It's really crazy, but that's how it's done."

He often inserted numbers in the checklist — say, a measure of hand strength — after the person left, rather than as he performed the tests.

Was he sure they were correct? "I'm not sure of anything," he said. "They're just a guess in the first place."

The law requires a doctor to attest to the accuracy of a finished report before signing it, but Dr. Samuels said he rarely read them. He doubted he had read the Aumoithe report. "I just sign them," he said.

If he seldom read them, how did he know they were correct?

"I don't," he said. "That's the problem. If I read them all, I'd have them coming out of my ears and I'd never have time to talk to my wife. They want speed and volume. That's the name of the game."

Dr. Samuels said he generally received about $100 for one of these exams.

The state does not regulate how much a doctor can make for an independent medical exam, though it does limit what a treating physician may charge an injured worker, and generally that is much lower for roughly equivalent work. Some examiners said insurers pay them by the session, say $1,500 to be available from 8 a.m. to 4 p.m. and handle whatever workers are sent to them.

An occupational medicine doctor deposed by Scott Clippinger, a claimant lawyer, said he charged $550 an hour for an independent medical exam. In 2006, Mr. Clippinger complained to the state board that the imbalance in fees "allows the carriers to purchase opinions." He asked the state why it was not following a clause in state law that says that independent medical exams "shall be paid according to the fee schedule."

The board's response was that while the law "does provide that I.M.E. fees shall be paid according to the fee schedule, the fee schedule does not specify a particular fee for an I.M.E."

Dr. Edward Toriello, a Queens orthopedic surgeon who cares mainly for his own patients, said he is paid nearly twice as much for an independent medical exam than he is for seeing a workers' compensation patient he treats ($250 versus $140).

Like many who perform the exams, he views the compensation system as bloated with charlatans. Dr. Toriello, who does about 30 such exams a week, estimates that 80 to 85 percent of the time he finds no disability or need for medical treatment in workers whose doctors have found otherwise. He says the disparity is explained by the "comp mentality."

"I think it's human nature to help your patient," he said. "I think a lot of doctors say: 'I don't need the aggravation. It doesn't hurt to keep him out of work.' "

Dr. Zimmerman, of Queens, said he believed that 75 percent of people getting workers' compensation did not deserve it, but also said he was not surprised to hear that insurance lawyers in Queens said his opinions were overwhelmingly disregarded by judges.

"Judges come up with wrong decisions a huge amount of time," he said. "The lawyers work it so that anyone who scratches their toenail deserves equal treatment as someone who fell out of a 40-story building."

Sometimes, a review of cases shows, there are stark discrepancies between the testimony independent medical examiners give at trial and their reports.

Twice in 2005, for example, Dr. Francis O'Malley, a Long Island orthopedic surgeon, testified that a disability was more serious than indicated by his reports.

In one case, Dr. O'Malley testified that a man who had hurt his back lifting packages had a "marked" partial disability. The report described the injury as a less severe "moderate" disability.

When confronted with the discrepancy, Dr. O'Malley testified, "I don't know what's going on."

The reports were filed on Dr. O'Malley's behalf by Hooper Holmes, a national medical services company that operated an I.M.E. entity. The company said that it always submitted exactly what doctors gave it and that it believed Dr. O'Malley, who is 78, was confused. Dr. O'Malley did not return calls for comment.

In the case of William Cassone, the plumbing company driver whose father taped his examination, the exam by Dr. Samuels was arranged by All Borough Medical, an unregistered I.M.E. entity, which got the assignment from another registered entity.

Mr. Cassone had been injured years earlier but was being examined because, as he says on the videotape, he had suffered a second, recent injury.

But Dr. Samuels's report made no mention of the second injury and deemed Mr. Cassone able to work. When Mr. Cassone got the report, he said, "I was screaming so much I left the house and slept in the car."

Dr. Samuels later swore in a deposition that the report was accurate. A few weeks later, though, the board received an addendum signed by Dr. Samuels saying he had viewed the videotape and, yes, he had been told of the second injury. Still, he found no evidence of disability.

All Borough declined to comment on the case and its business.

Dr. Samuels said in a recent interview that he had never seen the addendum or the videotape and doubted he had read the original report. He said All Borough must have prepared the addendum without his knowledge.

"This is the first I've heard of this," he said. "Listen, there's a lot of hanky-panky that goes on."

Mr. Cassone's lawyer, Michael Pyrros, told a judge at a hearing that he was concerned there might have been fraud involved in the conduct of Dr. Samuels, the I.M.E. entity and the insurer. When the Cassone case next came before a judge, late last summer, a deal was reached between lawyers to grant Mr. Cassone benefits. Fraud allegations were dropped against the insurer.

Dr. Samuels, who was told to appear at the hearing, did not show up. According to a letter from his lawyer, he was unwell. His behavior was never addressed. Soon after, he retired, his official record unblemished.

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Review Article

Opinions and Testimony of Expert Witnesses and Independent Medical Evaluators

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ABSTRACT

Objective. To clarify the guidelines and responsibilities of expert witnesses and independent medical evaluators (IMEs).

Design. Literature review and personal opinion.

Setting. There have been concerns about the objectivity of expert witnesses and IMEs due to potential financial conflicts of interest.

Results. Medical-legal work such as expert witness testimony and independent medical evaluations are a recognized part of the practice of medicine. As such, the opinions and testimony of expert witnesses and IMEs should be held to the same scientific and ethical standards as clinical practice. The concept of "expert" differs when used by the legal system vs when used by physicians. Expert testimony should be based on the best available evidence and standards of care, which requires that experts stay current in their field of expertise, and revise old opinions as new information is published. Personal experience alone is rarely sufficient. A medical expert should be in active practice caring for the type of patient involved in the legal action or, alternatively, be able to demonstrate competence to provide an opinion in the specific area of interest.

Conclusions. Testimony should be honest and evidence-based. Testimony and reports should be accurate, impartial, and relevant. Both should be based on current scientific evidence, and avoid the role of advocate for the party. The physician should testify as if the opinions and their bases are subject to peer review.

Key Words. Expert Testimony; Independent Medical Evaluations; Medical-Legal

The practice of medicine has expanded from clinical care and research to include medical-legal work such as expert witness testimony and independent medical evaluations [1]. The most common areas requiring expert medical-legal opinions and testimony are personal injury, medical malpractice, and workers' compensation.

In clinical practice the patient is the primary interest. Treating physicians are obliged to act first and foremost in the best interests of their patients. Their care and treatment should be based on medical evidence, honesty, and integrity. The physician who is contracted to be an independent expert witness or medical evaluator (IME) is not obligated to have the patient as primary interest.

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However, the opinions and testimony of expert witnesses and IMEs should be held to the same scientific and ethical standards [2]. There have been concerns raised about the objectivity of expert witnesses and IMEs due to potential conflicts of interest (COIs) among other issues [2–7]. This essay explores some of these concerns and offers a few practical solutions.

Conflict of Interest

A COI exists when secondary interest(s) have the potential to influence a physician's judgment, actions, or opinions regarding a person who is the subject of litigation [8–15]. It is important to note that it is the potential to influence, not that the COI will necessarily do so. To expand, a COI exists when there might be a divergence between a physician's private interests and the professional obligation to render unbiased opinion or testimony [13]. It has also been suggested that a COI exists if a reasonable observer might believe it just possible that a doctor's actions or opinions could be influenced by that secondary interest [13].

Conflicts of interest are inevitable, occur throughout medicine, and cannot be completely avoided. COIs are not inherently negative [8]. The problem is that COIs have the potential to lead to unconscious bias, which might influence opinions, decisions, or treatment [13,14]. Such bias is not purposeful, or it would be fraud. It is unconscious. Many physicians feel they can resist the influence and potential for bias of COIs by virtue of their ethics, education, intellect, and scientific training; but this proves not to be the case [8,14]. The fact that the physician is aware of the COI and its potential for bias is important, but does not necessarily mitigate its effect.

Conflicts of Interest and Medical-Legal Practice

Why would a physician choose to be an expert witness or IME? It has been suggested that medical-legal practice can provide significant noneconomic benefits such as enhancing a physician's reputation, adding variety to routine clinical practice, and allowing for greater understanding of the litigation process, while also serving the public interest [2,16]. Medical-legal work can also be interesting and challenging. Being an expert witness can provide incentive to remain current with the medical literature and to develop better communication skills. Medical-legal practice offers excellent working conditions. The hours are good. There is no patient care responsibility, no night or weekend call, and no burdensome paper work.

However, these benefits pale when compared with the income physicians can earn doing medical-legal work. The hourly and daily fees for testimony, trial preparation, reviews of records, and depositions are usually far greater than reimbursement for office-based patient care and virtually all noninterventional treatments. After considering these benefits of medical-legal practice, it is no wonder that experts want to be hired again. It is obvious that if an IME or expert witness offers too many opinions that are not in the interests of the contracting party, that physician might not be hired again.

The linkage of expert testimony with current and future financial gain is an inherent and powerful COI, which has significant potential to lead to bias [16,17]. Despite striving to be neutral, independent, and unbiased, there remains an unconscious pressure to report results in favor of the employer [18]. In this context, the doctor "knows who is paying the bill" [18]. Of course, it would be unethical for an expert to purposefully exaggerate those aspects of a case that benefit one side while minimizing those that might benefit the other party [2,18].

A monograph by the American Academy of Orthopaedic Surgeons (AAOS) discusses potential biases in medical-legal evaluations, opinions, and testimony [19]. The authors first discuss the potential for bias by the treating physician who might testify on behalf of his or her patient. They state their opinion, but offer no proof, that "the treating physician's bias is the primary reason for the IME." On the other hand, the AAOS formal published guidelines state that the orthopedist treating physician has an ethical obligation to provide testimony for his or her patient [3]. The ethics and guidelines for treating physicians who serve as expert witnesses for their patients have been discussed [2,3,20]. The treating physician-expert is bound by the same guidelines as an independent expert. Rich offered guidelines for the treating physician who testifies as an expert and recommends that physicians stay within the limits of their knowledge, training, and experience; thoroughly review the patient's medical records; review the latest literature on the subject at hand; and scrupulously maintain a position of objectivity and impartiality [20].

Grace et al. go on to state that the "second most obvious potential for bias is for an IME physician

to be unduly influenced by the party paying for the IME" [19]. They recognize that "far more IMEs are ordered by insurance carriers and defense attorneys than by claimants and plaintiff attorneys." Most physicians who regularly perform IMEs work almost exclusively for the plaintiff or defense. This has the potential to bias the examiner toward the side that hires them most often. The authors continue: "Over a period of time, an IME physician develops a certain reputation based on his or her track record." These experts and IME physicians have in a sense already settled on their position before weighing the facts and science of the case [18].

The Adversarial System

It is up to the attorneys, not the experts, to advocate for their clients. Adversary theory argues that the "battle of experts" should even out, and in theory at least, the potential biases of the two opposite experts with their respective potential COIs should balance each other. If this were true, the evidence alone would determine the outcome rather than the biases, personalities, experience, and style of the respective experts [21]. Unfortunately, this may not be the case in realtiy. Ultimately, it is up to the arbitrators, judges, and juries to weigh the evidence that the experts present against the potential for bias of the experts before rendering a decision.

In theory, the expert witness is an educator for the court, and offers testimony that is honest, scientifically based, and unbiased. In theory then, a single expert could evaluate the patient and the science, present both sides of the issue fairly and without the potential for bias, and leave it to the court to determine the outcome by weighing the evidence. In theory, expert witnesses would truly be medical experts, recognized as such by their peers. Courts could maintain a panel of experts and the attorneys would choose one to review the case, present it, and offer an opinion subject to direct examination by both attorneys [19].

In reality we have an adversarial system [21]. Unfortunately, in our current system, it is no longer expected that an expert's opinion will be fair and balanced. An expert witness physician is "not expected to excel in fair and probing analyses of all sides of issues" [21]. In fact, at least at trial and deposition, the expert's opinions are very dependent on the questions the attorneys ask during direct and indirect questioning. As a result, the system puts a great deal of weight on the respective abilities of the attorneys rather than the true expertise of the witnesses [21]. It becomes the job of the attorney to ask questions that emphasize one side of the issue. It is then up to the opposing attorney to bring out the opposite perspective during cross-examination, at which time the expert is ethically bound to answer truthfully and fully.

Qualifications of Medical Experts

The concept of "expert" differs greatly when used by the legal system as opposed to when it is used by physicians. A judge will frequently qualify a doctor as an expert even though other physicians or scientists might not regard that doctor as a true expert in the particular field [22].

Several medical societies have offered guidelines for qualifications of an expert witness. Many equate the standards for medical-legal opinions with the standards for clinical practice. Several examples should suffice. The American Academy of Neurology guidelines state that a medical expert should be in active practice caring for the type of patient involved in the legal action [4]. If a medical expert is not in an active practice, he or she should be able to demonstrate competence to provide an opinion in the specific area of interest. Evidence of competence might include relevant publications or active teaching of students or house staff in the specific area during three of the 5 years that immediately precede the date on which the opinion is offered. They also suggest that the expert witness should be prepared to state if the opinion is based on personal clinical experience, published evidence, or prevailing expert opinion [4]. This would imply the ability to cite the specific literature or other sources of expert opinion.

The American College of Surgeons offers that the physician expert witness should be prepared to state the basis of the testimony or opinion—whether it is based on personal experience, specific clinical references, evidence-based guidelines, or a generally accepted opinion in the specialty [7].

Current Medical Evidence as a Basis for Testimony and Opinion

The science of medicine changes rapidly. Much of what physicians learned in medical school or residency training becomes outdated and may subsequently even be proven incorrect. Taking care of patients is a powerful motivation for physicians to keep up with the swiftly changing knowledge.

Treating physicians know they cannot rely on older information alone. They know that much of what they were taught in the past was based on anecdotes and experience rather than good science. Therefore, they have an obligation to read the literature and attend high quality medical education courses. Treating physicians are being held to the higher standard, evidence-based medicine (EBM) and its logical outcome, evidence-based practice.

The IME physician and physician-expert should be obligated to keep current as well. They should be held to the same evidence-based standard in the areas in which they will offer themselves as expert. Physicians who provide expert testimony should have recent and substantive experience or knowledge in the area in which they testify [2]. Their testimony should reflect current scientific thought and standards of care that have gained acceptance among peers in the relevant field [2]. This requires that experts be current in their field of expertise, and revise old opinions as new information is published. However, to paraphrase Upton Sinclair "it is difficult to get a man to understand something when his income depends on his not understanding it."

The American College of Surgeons stresses that the physician expert witness should be able to demonstrate evidence of continuing medical education relevant to the specialty or the subject matter of the case [7]. The North American Spine Society guidelines state that an expert witness should be engaged in the active practice of medicine or, alternatively, should be able to demonstrate sufficient familiarity with present practices in the area of his or her testimony to warrant designation as an expert witness [5]. American Academy of Neurological Surgeons guidelines state that the expert shall be very familiar with prior and current concepts of standard practice [6].

Few checks exist on what medical experts can (and *do*) say in evaluations or in court, and that it is up to the cross-examination to provide these checks and balances [19]. The American College of Obstetrics and Gynecology and other societies advise that the expert must be prepared to have his or her testimony subjected to peer review by an organization to which he or she belongs. Many societies are doing just that when complaints of biased and perhaps unethical testimony are filed [23,24].

The Federal Court system has recognized the problems of unscientific expert testimony and has set guidelines referred to as the Daubert standard [2,14,23]. The judge is considered the gatekeeper, and is responsible for insuring that scientific testimony is both relevant and reliable. Daubert mandates that for information to be admitted as evidence, the scientific theory must be testable and tested, subjected to peer review, and preferably published. The science must be generally accepted by the appropriate scientific community [2,26]. In other words, Daubert requires good science. Opinions of the expert cannot be admitted based solely on the experience of the expert. The courts are saying in effect, "let the evidence speak" [27].

Continuing Education and Learning

Evidence-based medicine and practice offers one solution to some of the ethical problems in medicine [8,25]. EBM can be as valuable in medical-legal work as it has proven to be in clinical care [8]. There could be a significant improvement in medical-legal practice if expert witnesses and IMEs were required to support their positions using an evidence-based standard.

Some physicians find it difficult to change their practices and their opinions. Despite new literature and better science, some treating physicians and experts might cling to old and deeply entrenched beliefs. This is partly explained by the primacy effect of learning theory, which teaches us that "things learned first are things learned best." This can be true in clinical care as well as in the medical-legal field, even when new and better information is available.

Another powerful learning tool is feedback. Feedback provides a mechanism and opportunity for learning through self-correction when a decision or opinion was wrong and positive reinforcement when it was right. A treating physician receives feedback from patients, peers, and consultants. An IME physician or expert witness physician does not have the benefit of this type of feedback, and consequently no feedback-learning occurs.

For the expert physician, this should not be too formidable a task. A physician should be familiar with the literature to be considered an expert in a particular area of medicine. It is a small task to do a recent literature review for updates. If the case at hand is outside the expert's true area of expertise, the doctor can easily and quickly search the literature online. There are abstracts and links to the full papers and other related articles. Perhaps more important, there are systematic reviews in which the authors have searched, reviewed, and analyzed the literature. There are also narrative

reviews, new original research, and expert opinion articles available. The expert can then consider the current evidence when formulating an opinion. It is no longer reasonable to rely on what was learned in residency training, from older textbooks or from personal experience.

Summary

- It is a reasonable and proper part of medical practice to be an expert witness and independent medical examiner.
- It is reasonable and proper for the treating physician to serve as an expert witness.
- All expert witnesses and IMEs have a potential COI and the potential for bias.
  - It is imperative that an expert witness recognize the potential for bias, and reflect upon it both in general and case by case.
  - The greatest potential for bias exists among physicians who devote the majority of their practice to performing medical-legal evaluations and who perform most or all of these evaluations for one side.
- A physician's opinions and testimony should be evidence-based.
  - Testimony and opinion should be based on the best available published medical evidence and when the evidence is not definitive, opinion and testimony should be based on published expert consensus opinions.
  - Personal experience alone is rarely sufficient to be used as the basis for an expert medical opinion or testimony.
- Physicians are obliged keep current in the area of expertise in which they are to testify and be able to cite or present the literature or other sources upon which they have relied.

Consensus of Qualifications and Guidelines for Expert Witness Testimony and Independent Medical Evaluations [2–7]:

Qualifications
- Physician should have a valid license to practice medicine.
- Physician should be board certified, board eligible, or an equivalent.
- Physician should have specialized training, knowledge, and/or certification appropriate to the issues in the particular case.
- Physicians should be able to demonstrate relevant continuing medical education appropriate to the issues in the case.
- Physician should be in active practice of clinical medicine.
  - If not in active practice, physicians should demonstrate expertise by actively teaching medical students, supervising residents or fellows, or teaching peers; or be currently or recently involved in research and/or authorship of relevant peer reviewed Literature.
- If >20% of a physician's practice is medical-legal work, the physician should be prepared to demonstrate competence to provide an opinion that is not biased by financial considerations.

Guidelines for Testimony and Reports
- Testimony and reports should be accurate, impartial, relevant, and based on current scientific evidence.
- Testimony and reports should avoid the role of advocate for the party.
- Respect the privacy and confidentiality of patients.
- Testimony and reports should state the basis for the opinions expressed and whether they are based on personal experience, medical references, evidence-based guidelines, or generally accepted opinion in the specialty.
- Compensation should be reasonable in relation to time spent and effort expended.
- Testimony and reports should meet the highest scientific standard and the physician should testify as if the opinions and their basis are subject to peer review.

Ethics
- There is a duty to testify.
- Testimony should be honest.
- Testimony should be evidence-based.
- Standards articulated should not represent the expert's view to the exclusion of other choices for which there is appropriate evidence.
- It is unethical for a medical expert to tie the level of compensation to the outcome of the case.

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27 Siegmund G, MEA Forensic Engineers & Scientists Ltd. Corporate tag line. Used with permission.

Appendix I

Examples from Clinical Practice

Case example 1

Patient 1 is a 38-year-old broker in good health with no history of low back pain until a motor vehicle collision (MVC) in which she was the fully restrained driver of a vehicle forced to make a sudden emergency stop. Her right leg was forcefully extended on the brake when her car was struck from the rear by an SUV doing about 45 mph. She has had immediate low back pain and now has persistent buttock pain radiating to the right groin and right posterior thigh for 11 months since the MVC. She has been able to work only half-time since the MVC. Physical examination shows tenderness over the right but not the left sacroiliac (SI) region, positive FABER maneuver on the right but not the left, and a normal neurological exam. Plain radiographs and lumbar spine magnetic resonance imaging (MRI) scans are normal. An interventional pain specialist performed a fluoroscopically guided SI joint injection with local anesthetic only and she had 90% relief of pain. Subsequently, he performed an SI joint injection with corticosteroids. The patient did well for 4 months, symptoms recurred, and a second injection was performed. She has done well since and returned to full-time work. She filed a law suit seeking compensatory damages.

The defense attorney sent the patient to a neurologist who specializes in noninterventional pain

management. He testified that the patient suffered a lumbar strain, should have gotten better in 6 to 8 weeks, the injections were not necessary, and she continued to have pain only because of the potential for financial gain from the litigation. Under oath he continued that the SI joint could not have been injured in such an accident, the SI joint is never a source of pain unless fractured or involved by a systemic inflammatory arthritis, the normal radiographs and MRI prove nothing is wrong, and all her medical care after 6 weeks was unnecessary. When asked what he has read about the SI joint recently, he cannot cite any references nor did he seek any when preparing to testify. When shown a comprehensive narrative review in a leading peer reviewed journal, he states, "Oh they'll publish anything.

Case example 2

Patient 2 is a 50-year-old computer scientist who slipped and fell on an unmarked wet floor at a large retail warehouse store and suffered a severe ankle sprain. He was placed in an air cast, slowly improved, began physical therapy, and returned to work. Over the next several weeks, he began to develop pain in the right foot and ankle that slowly spread to the entire lower leg. He found the pain difficult to describe but it was burning and dysesthetic in nature. He found it increasingly difficult to walk and was referred to a pain specialist. Exam revealed allodynia including marked pain with active ankle range of motion. She diagnosed complex regional pain syndrome and treated the patient sequentially with anticonvulsants, tricyclic antidepressants, and topical agents with only minimal improvement. She then prescribed opioid analgesics, and increased the dose until pain was under reasonable control and side effects were tolerable. She discussed spinal cord stimulation (SCS) as another treatment option, but the patient deferred for the present. Because the patient had been off work for a year, he lost his job. He filed a law suit.

The defense attorney sent the patient to a physician who is no longer seeing patients for care for an independent medical evaluation. The doctor testified that all the symptoms were subjective and "there were no objective findings." He stated that the patient was addicted to narcotics, and should be "detoxified" from opioids. Thereafter, no medical care would be necessary. When asked about the possibility of SCS, he stated "we gave that up 20 years ago." When asked what he had read about complex regional pain syndrome, reflex sympathetic dystrophy, neuropathic pain, opioids, or SCS in the last several years or when preparing to render an expert opinion, he stated that "there was nothing new in the field."